How the Roper Logan and Tierney Model of Nursing is Reflected and Perceived in an Orthopaedic Setting

Rohan Jean Mollart

A thesis submitted in partial fulfilment of the requirements of the University of Northumbria at Newcastle for the degree of Doctor of Philosophy.

in collaboration with the Royal Victoria Infirmary, Newcastle upon Tyne and the Kings Fund, London.

April 2001

ABSTRACT

This study evaluates the use of the Roper, Logan and Tierney model in an orthopaedic setting using a practitioner research approach. The aims of the study are to explore how the model influences the patients' needs, what staff are doing when giving care and how they plan and evaluate care. A qualitative phenomenological methodology was used, with inductive code development.

Thirty-six patients participated in the study. The data was gathered by observing twelve patients, interviewing another twelve patients and analysing twelve care plans. Initial analysis was carried out by using the twelve activities of living as a framework to code the accumulated textual data. Comparison of this indicated where the model and practice differed.

Exploratory diagramming was used in the analysis, resulting in the creation of frequency hierarchies. These were used to analyse the codes. They were presented in three areas, the data as a whole, the staff and patients' perspective and the long and short stay patients.

The results support four themes emerging from the data, a hierarchical element exists in care, a common core of needs is found between the long and short stay patients, patients and staff perceive care differently and the identification of partnership as a key theme for effective care. The partnership theme has been explored by developing further themes from the data. The formation of partnerships between patients and staff are shown to be important in negotiating care.

Frequency hierarchies in this study are found to be a powerful method of identifying themes, and an excellent tool for the exploration of qualitative data. The unique role of the research practitioner is also discussed and recognized as a valuable perspective for the critical evaluation of nursing models.

ACKNOWLEDGEMENTS

I would like to give my sincere thanks to all those that have supported and encouraged me during this study, my supervisors Professor Jan Reed and Doctor Jean Potts for their guidance and insight which was in valuable in helping me learn. The encouragement from family and friends was also gratefully received and helped me through the experience. Tim, my husband, for his support during this study. Lastly I would like to thank the patients and ward staff who took part, enabling me to do the study, for without their willingness and tolerance it would not exist.

CONTENTS

LIST of FIGURES

LIST of TABLES

CHAPTER ONE

The Introduction

Introduction

Motivation for this study

A nursing model is a social construct that describes the process of care in a nursing setting created by practitioners, educationalists and academics. It is used to provide a structure for care giving, and has been seen by some people more as a vehicle for professionalization and education than for assisting practice (Gruending 1985). From experience I am aware that using a model in a ward situation proves difficult for nurses, as it does not address specifically many of the significant issues occurring on a daily basis; for example where the model places pain in its framework does not reflect its importance in practice. This study investigates the use of one of these models, the Roper, Logan and Tierney model (RLT) of nursing (1996) in practice in an orthopaedic setting.

I became familiar with nursing models as part of the course work during my student training. Initially I found them arduous and demanding to use. They did not seem to reflect the reality of practice. At that time I did not question them, nor was this encouraged. They were used as teaching tools in college, but when on placements, I found wards that purported to use them did so in a variety of different ways, which were almost unrecognisable, thus adding to the mystery. This was often compounded by the numerous ways care was organised.

After qualification, I found myself once again using these frameworks in order to give care. I, as well as my colleagues, struggled to fit care into the model. An example of this manifested itself with the care plans, where the documented care did not conform to the model. On one occasion, an auxiliary voiced his annoyance at the time we spent on writing instead of giving care. He saw it as a waste of time, which got in the way of the "real care giving", a view also aired informally by some of the other staff, who thought that using the model in the care plans took up too much time and often did not reflect what was occurring in practice. This raised some issues. Could I justify the time I spent recording and planning care in this manner? How was I using the model and did it actually help me to give care? Could the model be as much of a hindrance as help? I found I could not answer these questions satisfactorily and neither could my colleagues.

On the other hand nursing models have introduced a degree of consistency to nursing care delivery and it should be remembered that in the environment in which they were introduced, care was often mechanistic. Indeed it is the increased professionalization and theoretical approach of modern nursing that enables the nursing community to question the delivery of care. The RLT model (1996) was used on the ward in which this study was based. Nurses were questioning the benefits of using this model in practice and if it met the needs of patients. It was the wish to improve practice by making use of models that led to the RLT model being the focus of this study.

The opportunity arose to explore these issues further when my ward earned the status of a Nursing Development Unit (NDU) in collaboration with the King's Fund. NDU's were established to develop and challenge issues in basic nursing practice and as such, it could be argued that the ward benefited from the prestige and financial incentive to improve practice, and the staff were highly motivated by the status given to them. Partial funding and support was received from the King's Fund. It enabled nurses to have day or half-day releases from work to carry out research. My role was to remain on the ward as a staff nurse and receive support and supervision from academic staff to carry out the study in order to work towards a higher degree. Through this combination of academia and practice I hoped to help integrate practice and research on the ward. These experiences and ideas developed into this study.

The Study

Background

The ward was a mixed sex, twenty-three bedded, orthopaedic ward, which dealt with a range of patient problems, predominantly those concerned with immobility and pain. Being familiar with this clinical area gave me a detailed understanding of the ward and a deep appreciation of the complexities of care, which as an outsider I would have missed. As I was a member of staff, I was aware of the difficulties nurses experienced when working within the framework of the model, and this influenced the research. The drive and purpose of the research was not how the nurse's care fitted with the model, but how the model reflected the needs and expectations of the patients

and staff. The model was not regarded as a standard by which to measure care, but was evaluated according to how it reflected the needs of patients and staff on the ward.

The setting was an orthopaedic ward where the RLT model was being used at that time. Reed and Procter (1995) discuss the issues surrounding the practitioner researcher and how this role contrasts with the traditional role of a researcher. Traditional approaches to research are preoccupied with issues of contamination and objectivity, where attempts are made to neutralise the influence of the researcher. This influence, when acknowledged, is seen as corrupting the data and the aim is to limit it as far as possible. This view of research is an idealistic one. It denies the insight and individual experiences of the researcher. Proof of its considerable value is in the discovery of DNA, where intuitive knowledge contributed significantly to research, providing insight and understanding, which would otherwise be missed (Reed and Procter 1995). The role of the practitioner researcher is valuable in this study because of this intuitive knowledge.

In this study the practitioner research position is seen as one of the strengths of the study, as the research is integrated into practice. The role of the practitioner researcher is relatively uncommon at present and raises some dilemmas. Reed and Procter (1995) provide insight into this position and offer discussion of the difficulties it presents, for example the choice of setting used, and the change of role experienced in the work place, leading to role conflict. This was experienced, along with feelings of guilt and truancy, when as a practitioner researcher, present on the ward I was often drawn into care decisions by patients and staff. The role did produce an effect in the other staff, as they felt threatened, that they were being checked up on and they expected their standard of practice would be challenged.

Aim of the study.

From this background of experience the general aim of the study was developed, It was to examine the existing ward model, the RLT model (1996), in the practitioner's own orthopaedic setting, investigating the patients' and staff's perceptions of care and how the model influenced practice to structure and give care.

A model of nursing acts as a tool to help the nurse to give care in practice. Therefore; examining a model in practice was thought to be the best way to explore how the model fulfilled the

requirements. As a member of staff, the motivation for the study was to improve practice by investigating how it reflected needs and problems identified by staff and patients. This would link the model to care actions in a fundamental way and reduce the gap as perceived by the staff, between practice and the model.

Examining the model in this way raised issues of validity. If practice and the model do not match, it does not indicate automatically that the model is wrong. This introduces the possibility that practice itself is failing. The RLT model claims to be patient centred. In this study the needs of the patient are explored from the staff and patients' perspective and then compared to the model. How the model is useful in meeting the interests of the patient in practice can then be seen. This influenced the research design as to what and which areas to explore. The intention was to explore the model through practice from the patients' and staff perspectives.

Sequence of Data Collection

The data was collected from one ward in three stages. The methods used were observations, patient interviews and care plan analysis. These stages are shown in Figure 1.1 and are briefly described below.

Stage one involved the participant observation of twelve patients with different diagnosis; the purpose of which was to identify how staff were giving care, and to assess how the RLT model reflected and matched the care. As far as possible this stage showed what was occurring in care as recorded by participant observation.

The second stage involved twelve interviews with patients who were coming towards the end of their stay in hospital. A semi-structured interview was administered to collect data. This data represented the patients' perceptions of care.

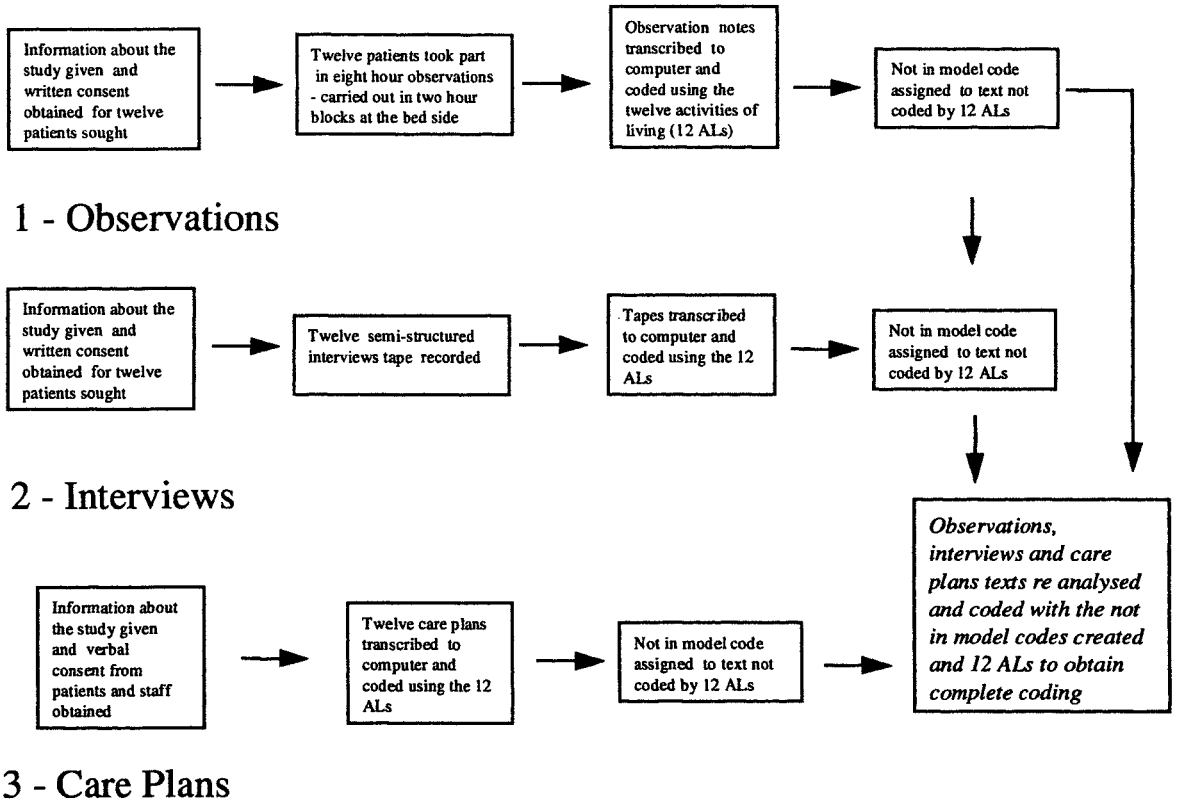


Figure 1.1. The three stages of data collection, which yielded the raw data of this study

The third stage analysed the care plans of twelve patients, which were constructed and maintained by the staff who gave care. These were analysed using the RLT framework. This gave an account of the staff perspective of care (as discussed in chapter five). Care plan analysis was chosen in preference to staff interviews, as it was thought that the RLT framework would dominate interviews and this would have been difficult to overcome. The care plan analysis would show how staff plan and evaluate care.

The codes that were identified at each stage were carried on to the next, for example to label the text the codes developed in the observations were applied in the interviews. If the model codes or one of the newly created codes could not code something, then a further code was created. This iterative coding was carried out through the data to ensure coding was complete. That is, the coding was carried out cyclically; as new codes were developed they were applied to the

previously coded text to ensure saturation. A total of thirty-six different patients were used to gather data in this study.

Structure of the Thesis

This study is presented in eleven chapters, which are outlined below.

Chapter 1 - Introduction

In this chapter the motivations for the study are outlined and the RLT model introduced. The position of the practitioner researcher is then briefly explored. The area of study is set out and a chapter outline presented.

Chapter 2 - The Literature Review

The chapter explores literature relevant to this study. The definitions of models found in the literature are examined revealing multiple definitions and some confusion. The history and development of nursing models are discussed, including how the medical model, societal and political influences and the use of borrowed theories from other disciplines, influenced nursing models. Other areas of the literature covered are; models in practice, influencing factors, placing model in the realm of nursing knowledge and how they have been tested.

Chapter 3 – A critical appraisal of the Roper, Logan and Tierney Model

The RLT model (1996) is examined in detail. Its history, development and its key concepts are discussed. Parallels are then drawn with the work of Henderson (1969). The metaparadigm of person, health, environment and nursing was then used to examine the RLT model, and found not to be useful as an evaluation framework.

It is argued that the literature has show that the RLT model has been little tested and that nurses are experiencing some difficulties when using the model in practice. The research that the model is based on was then critically evaluated, before concluding the chapter with the proposed aims of the study.

Chapter 4 - Methodology and Methods

This chapter considers the design of the study to investigate the RLT model in practice. The nature of nursing is discussed. The case for qualitative evaluation is presented, identifying an inductive phenomenological approach as being ideally suited for the exploration of the RLT model. The role of the researcher practitioner is also researched, with consideration given to bias and ethical issues arising from this position. The above methodology is a coherent way to explore the RLT model, due to its nature and the difficulties of investigating models in practice.

Chapter 5 - Data Collection, Setting and Sample Selection

This chapter presents the setting on an orthopaedic ward, exploring why this area was interesting and the difficulties encountered. Sampling methods are discussed and purposeful sampling is described. Ethical issues are raised, followed by the presentation of the methods and how they met the aims of the study.

Chapter 6 - Data Management and Analysis

A computer program was used to manage the data and to aid analysis. This chapter considers the computer assisted Non Numerical Unstructured Data Indexing Searching and Theorising package (N.U.D.I.S.T.), which was used in the study to organize and structure the accumulated data. Qualitative data analysis is then explored, with reference to the use of coding and classification. The twelve activities of living were used as an initial framework for coding and analysis, followed by inductive coding. Deliberation was then given to both of these, as they remained an interpretation of this researcher and as such influenced the results.

Analysis of each stage of the study is then described in detail using both single and multiple coding, leading to the use of 'quantizing' (Silverman 1993) as a method of analysis. Issues of trustworthiness are also addressed.

Chapter 7 - The First Stage of Analysis

This chapter gives an overview of the first stage of analysis. It identified which parts of the model were used, and gave evidence of how the activities of living were applied to care. The following activities of living from the model were found to be given high priority when providing care, **safe environment, communication, elimination, mobilizing, working and playing, eating and**

drinking. The descriptive results indicated where the model was not used, **sexuality** and **dying** and also identified gaps in the RLT model, which were filled by staff identifying Not In Model (NIM) codes to meet the needs and requirements of the patients, as they saw them.

This descriptive data identified that some of the NIM codes played as significant a role in care, as the activities of living. The other NIM codes, like the six remaining activities of living, played a lesser role in the planning and administering of care in the orthopaedic environment.

Of the five components of the model the activities of living and the nursing process were used. Most of the activities of living could be identified in the assessment, and the nursing process could be seen clearly in the evaluation, where both actual and potential problems were arising. The existence of other needs and problems outside of the model boundaries provided evidence that the RLT model did not encompass the full role of the nurse.

Chapter 8 – Exploratory Diagramming

This chapter explores single and multiple coding through alternative data displays. These did not explore the complexity of the inter-relationship of codes in care. An alternative framework was sought and, from the care plan indexes, which suggested there was a hierarchical element of care, the concept of a frequency hierarchy was identified. A frequency hierarchy was developed as a tool for further analysis and used in chapter nine to draw conclusions.

Chapter 9 - Frequency Hierarchies.

This chapter used frequency hierarchies as a secondary framework for analysis. The results were presented in frequency hierarchical figures. They established the frequency of the occurrence of expressions of needs, wants and other issues in this orthopaedic setting.

Presenting the result in this manner allowed the examination of the relationship between the codes. It gave a view of practical care in an orthopaedic setting. Three sets of results were presented; the overall picture of the data, the patients' and staff's perspectives, and the needs of long and short stay patients. The results showed a view of how the model was reflected in the patients' and staff's perspective of care, whilst also showing where staff complimented the model with additional needs identified by patients and staff in orthopaedics.

Chapter 10 – Methodological Accounting

This chapter reflects on and evaluates aspects of the methods and analysis, drawing attention to factors that have influenced the results. The main issues discussed include the complexities of the research practitioner's role, data collection, including each of the methods used, occurrence and its significance to care, analysis and implications for theory evaluation.

Chapter 11 – Discussion and Conclusions

This final chapter presents the main outcomes of the study. It was found that two sections of the model were being actively used, namely the nursing process and the twelve activities of livings. A hierarchical framework was used to interpret the codes, it fitted with the data and may be one way that staff use both the model and needs to give care. It is also suggested that the fundamental ideas contained in the model of individual care, and patient involvement in care may in fact create difficulties in practice. A common core of needs was also found to exist when the long and short stay patients were compared. The differences between patients and staff views of care are discussed, with reference to emerging themes.

The patients' and staff's perspectives of care are then considered. Four areas, where patients and staff can negotiate care, are identified. They are Problems versus Needs, Active patient versus Passive patient, Physical versus Psychological and Future versus Past. A partnership and negotiation of care is recommended. The conclusion of the study are outlined followed by some recommendations.

CHAPTER TWO

Literature Review

Introduction

This chapter reviews the literature surrounding nursing models. It defines and places them in the structure of nursing knowledge, and explores the relationship between metaparadigm, the paradigm, models and theories. The development of models is discussed, before identifying issues that influence models present in nursing culture. A scrutiny of the literature then follows, and the importance of examining models in practice, is established. How the literature was selected can be found in appendix 14.

What is nursing?

Before going on to discuss the philosophical and conceptual basis of nursing, I would like to consider briefly what nursing is. How nursing is defined varies between different theorists. Henderson (1966: 15) defined nursing as:

"The unique function of the nurse is to assist the individual, sick or well, in the performance of those activities contributing to health and its recovery (or to a peaceful death) that he would perform unaided if he had the necessary strength, will or knowledge. And to do so in such a way as to help him gain independence as rapidly as possible."

This is Henderson's definition of nursing, but others view nursing differently, placing emphasis on alternative aspects. The many definitions of nursing enrich our profession (McKenna 1997). Each definition directs the role of the nurse, and influences care giving when using that particular model.

Defining Models

Florence Nightingale developed an early but significant model for nursing, when she identified the holistic nature of the individual, the importance of the environment and its influence on patients. She defined health as encompassing more than the simple absence of disease and sought to reform nursing (McKenna 1997).

The medical model also moulded nursing. It dominated and formed the basis of nurse training for many years. The medical model encouraged a reductionist view of the body as a machine, and illness as a breakdown of that machine, where treatment of illness became synonymous with repair of the machine (Cull-Wilby 1987, Field and Winslow 1985, Van Maanen 1990). It was not until the 1950s that nurses began to search for their own body of knowledge, with the development of nursing theories and models (Chinn and Jacobs 1983). This resulted in developing nursing models using clinical practice, the authors' individual experience and philosophical thinking.

There are many definitions of what a model is, ranging from a representation of a model car in miniature to mathematical models used in physics. Powers and Knapp (1995: 103) define a model as "A graphic or symbolic representation of a phenomenon that serves to objectify and present a certain perspective or point of view about its nature and / or function." All models are designed to represent and clarify a phenomenon to aid an understanding of it.

Chapman (1985) categorized models into three types. The first, are one-dimensional verbal statements or philosophical beliefs about phenomena, which are high on abstraction and can only be considered intellectually in one's head. The second type is a two-dimensional model, including diagrams, drawings and picture representations of the phenomena. The third type, described as three-dimensional, is physical models and scale replicas that are handled and examined.

McKenna (1997: 13) described nursing models as initially conceived as one dimensional and developing into two-dimensional conceptualizations. They are tools that aim to simplify and explain nursing, however McKenna (1994) argued that they are also accused of complicating nursing practice rather than simplifying it.

Behi and Nolan (1995 a: 223) described models as:
"Global and very broad conceptual frameworks, which seek to explain as much of the empirical world as possible ... ultimately to have one theory that explains everything, they are high on scope and abstraction and are difficult to test and apply in practice".

These definitions suggest that a model is a way of looking at things, like a tool or a map, simplifying reality, helping the nurse to provisionally understand the goals and directions of care. Like a map, a model does not give details of the entire terrain, instead it makes those parts that

are important for its given purpose stand out e.g. if the purpose is travel, the map highlights roads. No model reflects all that is contained within the phenomenon; as such, a model would defeat its own purpose (Stevens 1979).

Models of nursing are a way of providing formal presentations of some nurses' private values and image of nursing. They aim to facilitate communication between staff and provide a systematic approach to care (Fawcett 1995). The literature reflects different perspectives. Some argue that models are useful to guide care and contribute to understanding the nature of nursing (Van der Merwe 1997, Meleis 1985, Chalmers 1989, Fraser 1990, Fawcett et al 1992, Aggleton and Chalmers 2000), while others suggest that models do not aid nursing practice and are problematic (Johnson 1983, Cash 1990, Reed and Robbins 1991, Fraser 1996).

The nursing process

In 1977 the United Kingdom Central Council (UKCC) endorsed the use of the nursing process (NP), a systematic and analytical approach to care that involves four stages; assessment, planning, implementation and evaluation (Yura and Walsh 1967). More recently Christenson and Kenny (1995) have suggested an additional stage of 'nursing diagnosis' that falls between assessment and planning. Barnum (1994) argues that there is more than one version of the nursing process although the literature commonly refers to *the* NP. Some versions of the NP have many additional steps, for instance patient prognosis and goal setting. The successful use of the NP in nursing is due to its nature as a *process* rather than a *context.* That is, it represents a logical theoretical thread that is compatible with many other models, theories and computer systems (Barnum 1994).

Parse (1999) argued that the nursing process has strong parallels with the medical model in its association with the problem solving approach used in medicine, where the nurse remains the focus of practice and the authority in guiding people in what is best for their health. Parse (1999) argues that this process is reductionistic; labelling patients from objective judgments made by nurses. What then makes the process a nursing rather than medical process? McKenna (1997) argues that it is dependent on the theory used to give care. The use of nursing models and theories, together with the process, provides a nursing process.

The nursing process can be described as a framework, which directs care (Greenwood 1988, Latimer 1995, Roper et al 1983b, Kalideen 1993). However, by itself the NP is not enough. Nursing models are required to flesh out the details and direct what to assess, plan, implement and evaluate. The UKCC advised that nursing patients should be studied and practised in the sequence of the nursing process (Dickinson 1982). This indicates that the NP should not only be used on a daily basis for care but also taught and used in nursing education. De La Cuesta (1983) documented the development and history of the nursing process along with its introduction into the UK. It is now routine in everyday nursing practice. The relationship between the nursing process and nursing models has been encouraged (Aggelton and Chalmers 2000, Miller 1990) and is viewed by Roper, Logan and Tierney as essential (1996: 15):

"The process on its own is in vacuo: it has to be used in the context of a nursing model."

Roper, Logan and Tierney's model (1996) includes the nursing process as one of their five components of nursing. Using the process together with models in practice is supported by the UKCC and models are now an explicit part of the nursing curricula. There is a need therefore to develop theory on what nursing models are.

Models in practice

Nursing in the past has accepted new ideas uncritically. This can be seen clearly in the case of nursing models from 1950 to 1970, where there is little criticism of nursing theorists' work (McKenna 1997). This reflects the authoritarian background and the immaturity of the profession at that time, as nurses had not yet developed the theoretical or philosophical knowledge base to wrestle with these issues. In the 80's and 90's as models were increasingly adopted criticism also increased and difficulties using them emerged. Currently there is increasing use of models, where nurses are using them to justify their unique position in health care (Parse 1999). There is discussion regarding the use of nursing models and theories. Some argue that they were not intended to be used in direct patient care but only as thought provoking guides to encourage reflection on care given, others argue, that they must be relevant to practice (McKenna 1997). Whatever the arguments, models are currently used across the UK as frameworks for practice. However there is a scarcity of research studies examining the use of models in practice and therefore a legitimate requirement to explore the relationship of models with practice.

Using Models

Models of nursing are used not only in practice but also in education for structuring curricula to teach and explore nursing (Fraser 1996, Parr 1993 a b, Girot 1990, Perlich 1986, Ross et al 1987, Roberts 1985, Clark 1982). In the literature, there are many examples of models being used in education, (Thorne et al 1993, Johnson 1989, Ross et al 1987, Kilgour and Logan 1985). Models structure both basic and post registration training and research, (McKenna et al 1995 b, Spearman et al 1993, Champion 1984, Magan et al 1990, Closson et al 1994), and are used with computers (Bliss-Holtz et al 1990, Goorman and Berg 2000). Models are used in every aspect of nursing including: care delivery, research, education and administration, however there remains little rigorous evaluation of these frameworks. This must occur before the legitimate use of models of nursing is established.

In clinical teaching, ward settings classed as suitable for student nurses, must also have adopted a model of nursing to qualify as an environment for teaching students (Barker and Ritter 1995). In research, researchers are using models of nursing as frameworks to guide and explore practice (Webb and Pontin 1997, Closson et al 1994, Fitzpatrick and Whall 1996). Nurse theorist conferences have also occurred in America since 1984 (Fawcett 1995) presenting many different frameworks and theories with sessions focused on the application of nursing models and theories to practice, education, research, quality assurance and administration. During the 1990's there was increasing interest in the development of nursing in Europe with nursing theory conferences in 1996 and 1997 (McKenna, 1997). This has continued with a second European nursing theory conference in Stockholm, Sweden in May 2000 and an International conference on nursing theory planned for September 2001 at Nuremberg, Germany. Models not yet validated, pervade all aspects of nursing, according to Parse (1999); nurses are using nursing models increasingly throughout nursing. This identifies clearly the need to explore models of nursing further to justify their use.

The widespread use of models is reflected in the literature, where numerous examples of models are used to varying degrees in practice (Jacobs 1990, Husband 1988, DeHowitt 1992, Meriney 1990, Mills 1994, Nyqvist and Sjoden 1993, Carr 1995, Fowler 1995). There is no definitive data on the use of models of nursing in the UK but the most commonly found models are those of RLT, Henderson, Orem and Roy (McKenna, 1997). A study by Murphy Black (1992) used a

questionnaire from sixteen units to investigate the use of systems of midwifery care in Scotland. This study concluded that 60% of the maternity units claimed to use the process of nursing or a model to guide care. This showed that there was confusion between the terms nursing / midwifery process and or model. Three models were consistently being used; RLT, Orem's and Roy's adaptation model, with five units using the RLT model, five units using Orem's and one using Roy's. These models of nursing are commonly found across the UK.

Currently most areas of nursing have adopted a model in keeping with their care and philosophy. As suggested, models are perceived as essential to practice and the profession to enable a more scientific approach to the analysis of care techniques. Zauszniewski (1995) argued that models can advance nursing science, and suggested that nursing scholars agreed on the importance of nursing theories and conceptual frameworks in order to achieve this. Powe (1993: 32) argues:
"The original purpose of nursing models is to define the unique qualities and perspectives of the nurse and nursing to establish nursing as a scientific discipline".
Ingram (1991: 351) argued:
"Models provide knowledgeable frameworks for care, they enhance nurses' power, focus and provide a rationale for nursing actions and increase autonomy by guiding education and research".
Nursing models are claimed to identify nursing as distinct from other health care professionals and to help give nursing a separate identity. Gruending (1985) proposed that nursing is in a state of professionalization and that nursing models are an aspect of this process. The above discussion shows that models of nursing are prevalent throughout all aspects of nursing, not only to improve practice but also as an attempt to professionalize nursing. This represents another motive for using models: the desire to achieve increasing academic and professional status.

The use of models, is complex. Wimpenny (1999) in a study examining models from the practitioners' perspective, argues that models are most appropriately employed as thinking tools serving to develop the mental model of the practitioner in practice. Wimpenny suggests that models should not be used for organizational or bureaucratic purposes. McKenna (1997: 165) argues that there are three different positions that are present in the literature regarding assumptions made about models:

1.They lead to better quality care

2. Have an uncertain effect on quality of care

3. Lower the quality of care.

Each of these positions is legitimate as presently there is little empirical evidence to support or contradict any one view. Although models are used widely in care, there is little evidence to establish how this reflects on care (McKenna 1997). It seems essential then for nurses to engage in active research regarding the relationship between nursing models and practice to establish what is occurring.

Nursing Models: the benefits and limitations

The perceived advantages

Many authors assert that models improve nursing. The following issues are the perceived advantages of using models in care and do not represent evidence from researched studies.

Improved communication: Models improve communication between nurses. They establish a unique body of knowledge aiding communication between practitioners and improving patient care (Clark 1982). Aggelton and Chalmers (1986, 2000) argue that models have also given nurses their own unique language, which contributes to this improved communication.

Professional status: Walsh (1998) argued that models set the framework for nursing knowledge, developed from a range of disciplines and nursing's own knowledge base. These include ethical knowledge, the principles that guide accountability to patients, aesthetic knowledge, creativity, sensitivity, empathy, and reflective knowledge from past experience (Chinn and Kramer, 1995). Aggelton and Chalmers (1986, 2000) argue that models distinguish nursing from other health care professionals by setting the boundaries of nursing. This isolation from other professionals is increased as nurses use their own unique language developed from the models. This gives nursing its own knowledge base, and arguably moves it towards professional status.

Improved care delivery: Kershaw (1990) supports the use of nursing models arguing that they are useful for organizing care and preventing the omission of vital aspects of care, whilst also clarifying thinking about practice among nurses. Aggleton and Chalmers (2000, 1986) use models to support rational and systematic practice, challenging routine and intuition. They claimed that models make practice more focused allowing specific goals and out comes to be set, where models define and clarify the purpose of nursing. In this way nurses can identify more effectively

who and what is required to meet these goals. Walsh (1998) identified that by defining the boundaries models help nurses to organize and deliver care to suit the patient, also by defining what is meant by nursing, models map out frameworks for education and practice.

Reducing the theory practice gap: Kenny (1993) claimed that models serve as a tool to link theory and practice through the operationalization of model in practice. Chalmers (1990) gives models credit for encouraging a questioning approach to care, which addresses differences between practice and theory.

Ingram (1991: 351) identified five uses of models all with the aim to improve practice. These were:

"That theory provides knowledge; enhances nursing power; aids deliberate action; provides rationale when challenged and provides professional autonomy by guiding practice, education and research."

Utz and Ramos (1993) used Orem's model to guide research and found it to be helpful. These examples show that models are perceived by some as essential for practice. Kenny (1993) summarizes nine possible advantages that nursing models may achieve (table 2.1). Aggleton and Chalmers (2000; viii) argue,

"It is now widely recognized that nursing models help to focus the nursing role, assist in individualizing care and providing a guide to practice. They allow nurses to communicate with one another ... facilitate the emergence of nursing theory as a unique body of knowledge central to nursing's emergence as a profession."

However, these perspectives, which are potentially useful, remain unsupported by research.

Table 2.1 The Advantages of Models. Adapted from Kenny (1993)

Advantages that nursing models may achieve.
1. They serve as a tool to link theory and practice.
2. Help clarify thinking about elements of practice and their relationship to each other, aid communication between practitioners.
3. Serve as a guide to practice, education and research.
4. Give direction to the way nurses act.
5. Allow the establishment of a body of knowledge unique to nursing.
6. Allows the evaluation of care using continuous and reflective evaluation.
7. Give a scientific and objective tool for appropriate manpower planning.
8. Help identify the appropriate personnel to carry out required interventions.
9. Improve the autonomy and involvement of nurses and clients through the principles of ownership, participation, involvement and self-regulation.

The perceived disadvantages

Other authors have identified limitations of nursing models. The following is a summary of the main critique reflected in the literature concerning nursing models.

Theory practice gap; Powe (1993) discusses the idea that nursing models and theories are creating a divergence between nurse practitioners and theorists. They suggest that this may be limited by encouraging research carried out by practitioner researchers, who are integrated in the worlds of both practitioner and theorist. This suggests that practitioner researchers are in an ideal position to contribute to the practical development of models.

Hardy (1988) identified several difficulties raised by the use of nursing models; that there was little room for the patient's input into care and a lack of empirical evidence to support their use. There has also been criticism that nursing models do not reflect actual nursing practice and that this has contributed towards the widening gap between practice and the model. Hawkett (1990) argued that nurses are experiencing difficulties relating models to actual patients encountered in the practical setting.

Kenny (1993) identifies the manner of implementation of models into practice as a reason for the gap between practice and models of care. This concerned introducing models into practice through a top down strategy; nurses had no choice but to use them and some perceived them as a passing fad.

A major recent change in practice is the linking of nurse education to higher education; nurse training has merged with colleges and universities all over the UK. Some see this change in emphasis as potentially widening the theory practice gap (Castledene 1993). However, it may encourage practitioner research, as nurses gain confidence with the research process. Other authors also view models as contributing to the theory-practice gap (Craig 1980, Miller 1985, Gruending 1985, Clark 1986, Lewis 1988) and the model-teacher gap (McKenna 1997).

Cultural differences: Cultural differences also exist where nursing activities differ, that is American researchers have different experiences within their own culture. This "colours" the model when used in another country (Clark 1982). This is also relevant in nurse educational system and different health care systems. While it is advantageous to consider ideas from other cultures, their adoption may be inappropriate. If imported models are to be relevant to the UK position tailoring to meet UK needs is important.

Language: Some of the difficulties nurses have encountered with models arise from the terminology and language used, which is difficult to understand and often bears little relevance to the real world (Garon 1992, McKenna 1993, Miller 1985). Stevens (1984) suggested the nurses' own language may enhance communication between nurses, but be a barrier for collaboration and the flow of care with other health care members. Hardy (1986) commented on the controlling nature of the language used in models saying that they demanded conformity and that there was no place for patient input. This encouraged nurse centered care. Hardy also identified the rigid structure of models, that restricted questioning and change in nursing. She claimed that this led to less critical analysis of care and that the holism projected by these models inevitably led to false expectations, where nurses promised more than they could deliver.

Allmark (1995) argues that the complexity of the language used in model contributes to the gap between models and practice. If nurses cannot grasp the meaning of the model, how can they

implement it into care? Confusing language used in models leads to difficulty using them in practice for nurses, and other health care professionals (McFarlane, 1986a in McKenna 1997).

McKenna (1997: 104) argues that contributing to this confusion, the same words have alternative meaning in different models:
"Adaptation in one theory (Roy, 1971) is taken to mean something totally different from adaptation in another theory" (Levine, 1966).
The use of jargon presents difficulties in practice and cannot be dismissed easily. A questioning and critical approach is advantageous when evaluating models, however there must be an accompanying openness to see worth and potential where it is present (Aggleton and Chalmers 2000).

Documentation: Increasing paperwork is one aspect of implementing a model in practice that nurses have found difficult. The time taken to complete and update the care plans consumes precious hands on exchange time with the patient. Some nurses view the implementation of models as a paper exercise only; McKenna (1997) found that the model obvious in the documentation was not reflected in the care given. This questions the utility of models if they do not permeate the care given or influence care in any way, then they truly are paper exercises.

The above criticisms of models are arguable easily conquered with persistence and time. However, the following issues relate to theoretical aspects of models, and fundamentally influence using and implementing models in practice. These are as follows:

The universal model: Chinn and Jacobs (1987) argued that there is a lack of coherence in the nursing profession, where different practitioners have conflicting goals for care. One suggestion to this problem has been the adoption of a universal model of nursing in all fields to solve the problem of conflicting goals of interest between health care professionals.

Murphy et al (2000) addresses the ideal of the universal model, which will guide care in all settings as unrealistic (Reed and Robbins 1991, Cash 1990, Draper 1990, Meleis 1983, McKenna 1993, 1997). The wide aims of nursing and the varying needs of each patient would require a universal model covering all varieties of nursing. This model would be so all encompassing and vague, that it would be of little use to the practising nurse. The concept of the universal model

fails, as one universal model is difficult to apply in all fields, for instance, most models assume the patient is sick, whereas in some cases the patient views him / herself as well; in prisons, health visiting or midwifery.

Models are intentionally broad to remain as useful and relevant to as many different areas of nursing as possible. The values and elements contained in each model are therefore difficult to define because of this universality. Their interpretation in many different ways makes them difficult to evaluate. An attempt to find one model that applies to all settings ensures broad definitions that are open to wide interpretation in each case. Indeed if they were defined, the model would become irrelevant to those who did not hold this view. This has implications for research where the model is explored directly in practice, as there are no agreed definitions of what the central variables are. Chapter four addresses these issues.

Models do not represent reality: Murphy et al (2000) argues that models are assumed representations of the reality of nursing. Johnson (1983) argues that models are only speculative and describe how nursing should be and not how it is. Stevens (1979) also points out that nursing models are an abstract of what nursing is, they represent what nursing 'ought to be'. Models therefore represent what should be, rather than representing the reality of nursing.

Nursing models represent an ideal for nurses to aim for. The model is a holistic representation of nursing and identifies ideals, not what is actually occurring in practice. McKenna (1997) argues that this presents a difficulty. If we cannot define practice how can we work in practice and carry it out? Alternatively, if models represent practice as it is then there will be no significant change in practice. The tension between these positions holds the key to evolving practice, models represent the ideal of nursing and practice the reality, however it is the movement between these positions that represents positive improvement in practice. In this way, practice is no slave to the model and the model can be influenced by the practicalities of practice where it is often viewed as an academic exercise.

An example of how the problem of 'reality' causes difficulties in practice manifests itself in electronic patient records. Goorman and Berg (2000) explored the use of electronic patient records and found that problems encountered were due partially to the model of health care

embedded into the record. Goorman and Berg found that the model contained projections of the nurse's work rather than what was actually occurring.

McKenna (1993: 123) raised the debate in the use of models for care;
"Nursing theories provided practitioners with a systematic method to explain and prescribe nursing practice but this could not be accepted as always being truly advantageous".
The private perspective of care held by each practitioner or patient may contradict that suggested by the model. Models describe and explain an 'ideal' as such they are a tool to aid practice.

Empirical testing: There is little empirical testing of models and a lack of evidence that they are useful in practice (Murphy 2000). Two studies have broached the area Faucett et al (1990) and McKenna (1993) both suggest that implementing a model produces changes in practice for the better and have a positive effect on care. These are discussed in detail later in this chapter.

Attitude towards models

Attitudes towards nursing models are mixed; some see them as vital to the advancement of nursing as a profession and others as holding back nursing development (Chalmers et al 1990, Tolley 1995, Kenny 1993, Ruane-Morris 1995). McKenna (1997) found three attitudes towards models first, *fear and uncertainty* where staff are afraid that the model would make them look incompetent and open them up for criticism. The second was *resentment and anger,* where staff are willing to sabotage their use: the third is of *interest,* where staff are willing to be involved in instigation. The staff's attitude towards models and how this is managed is a significant influencing factor as to the success of using a model in practice.
Wimperry (1999) found that there was much confusion between models and theories and proposed a typology for nursing models. Splitting models into three types;
1. The mental model – a personal pattern or interpretation of the model held by the individual nurse.
2. The theoretical model – the conceptual model of the theorist.
3. The surrogate model – A functional representation used to guide clinical practice, representing the framework or structure used to guide practice. Wimpenny (1999) identified this as emerging through the care plans.

Wimpenny (1999) argues that the way a model is implemented influences the perception of the staff using it. Models introduced from above, by management not considering the mental and surrogate models that exist in practice, will fail to be reflected in the culture and care of patients in that setting.

Influencing factors in model use

External factors influence models of nursing, for instance structure and management changes in the National Health Service (N.H.S.). It is therefore important to consider the environment in which models are used. The N.H.S. is continually evolving, for example the centralization of the N.H.S. and an emphasis on community care, as well as technological advances in pharmaceuticals, equipment and techniques. The public is more informed of treatments and there is increasing attention from the media. The government and other political parties place health high on their political agenda (Boseley 2000, Ahmed 2000). Politics however, are not the only issue to influence models in practice. The following discussions represent issues that contribute to the need for the exploration of models in practice.

Professionalization of nursing

One characteristic of a profession is the identification of its own unique body of knowledge making it distinct from others. Gruending (1985) proposed that nursing is in a state of professionalization and that nursing models are one such aspect of this process.

Ingram (1991: 351) argued:

"Models provide knowledgeable frameworks for care, they enhance nurses' power, focus and provide a rational for nursing actions and increase autonomy by guiding education and research".

Therefore nursing models appear to identify nursing as distinct from other health care professionals and help give nursing a separate identity. Models can therefore be seen as vehicles for professionalization (Gruending 1985). This suggests that another motive for using models is a desire to achieve an academic or professional status (Ingham 1991). Models are perceived as aiding professionalization of nursing by providing a framework of language, attitudes and status for the creation of a unique identity for nurse practitioners providing distinction from other professionals. Gruending and Ingham's examples identify models not only to improve practice but also to increase professionalism in nursing. Zauszniewski (1995) argued that nurses are using

models to advance nursing science, and suggests that nursing scholars agree on the importance of nursing models in order to achieve this.

While this is arguable, until a convincing body of evidence is amassed concerning models of nursing in practice, models will remain a speculative knowledge base for nursing. It is vital therefore to explore models in practice. Furthermore, by nurses taking part and initiating exploration they are assuming responsibility and accountability for developing their practice, moving nursing towards autonomous self-regulation of care at a practical level. This would be a significant achievement in the development of nursing as a profession.

Definitions of nursing in relation to models

The definition of nursing held in each nursing model influences how the model is used. Each model defines nursing in a particular way, which advocates how the model is used and the role that the nurse adopts when giving care using that model. The importance of models with different definitions is that they are not neutral in what they say about nursing. Each definition directs the role of the nurse, and influences care giving when using that particular model. There are many definitions of nursing (Mcfarlane 1980, Chalmers 1989). McKenna (1993) considered the nature of nursing, and argued that a precise definition of nursing was difficult to find. Others agree with McKenna that there is no one clear definition of nursing that was suited to all areas (Gruending 1985). Therefore, each model with its own definition of nursing influences how the model is used.

Partnership in care

This far the discussion has been focused on 'nursing' as the central theme of the model. However, another perspective is that of partnership in care. The discussions concerning patient involvement in health care have increased in the last decade stimulated by reforms of the health service in 1989-90 (Farrell and Gilbert 1996). These reforms and other documents like the Patients' Charter (D. o. H. 1991a, 1995) and Patient Partnership (D. o. H. 1996) introduced the concept of consumerism into health care and set out to make health care providers more accountable to the public. Through partnership, "appropriate and effective services are more likely to develop if planned on the basis of need identified in conjunction with users" (Patient partnership D. o. H. 1996: 2).

Table 2.2 Definitions of Needs.

Adapted from Endacott (1997) and Collins thesaurus McLeod (1988).

Definitions of need	**Synonyms for the term 'Need'** McLeod (1988)
1. Violence, constraint, compulsion, exercised upon or by persons. 2. Necessity arising from the facts and circumstances of a case. 3 In predictive use: necessary or needful. 4. Imperative call or demand for the presence, possession of something 5. A condition of affairs placing one in difficulty or distress: a time of difficulty or trouble. 6.A condition marked by the lack or want of some necessary thing.	1 Called for: demand, have occasion to, lack, miss, necessitate, require, want. 2. Want: longing, requisite, wish. 3. Deprivation: destitution, distress, extremity, impecuniousness, inadequacy, indigence, insufficiency, lack, neediness, paucity, shortage 4. Emergency: obligation, urgency, wants. 5. Demand: essential, requirement, requisite.

Endacott (1997) argued that the notion of 'want' was close to need and that a need represents a necessity and a deficit identified through a valued judgment with responsibility. In nursing, this involves the patient, relative and staff. Additional aspects raised in the literature about the concept of need in health care, is the question of whose needs are they and who is controlling and meeting them? (Endacott 1997) In practice different individuals hold conflicting views about what their needs are, for example the patients' views about their needs of care may differ from those identified by the nurse. Involving patients and relatives in identifying needs before setting the goals of care may reduce conflict and promote quality.

Recent D.o.H. publications (Our Healthier Nation 1998, Saving lives: Our healthier nation 1999) focus attention on the needs of users and carers. Bradshaw (1972) in Sheiham et al (1982) proposed a taxonomy of need. The first is 'normative' need where the professional defines the need in a situation. The second, 'felt' need, described as needs of the individual, their own assessment of his or her health state. 'Expressed' need is 'felt' need actualized into action;

represented by wants and demands from patients by seeking assistance from staff. 'Comparative' need is the comparison of health care received by different people with similar characteristics. If some patients receive care and not others then there is a comparative need in those not receiving that care. Finally 'unmet' need the difference between services judged necessary to deal appropriately with a health problem and the care actually given. This expression of needs emphasize the needs required to give a service but do not as Sheiham (1982) argues identify the need for preventative care or education.

Another framework of needs is Maslow's (1971) work of prioritizing needs into a hierarchy. Maslow based his idea on the notion that individuals have needs that can be satisfied, and that these provide motivation for living. Maslow's hierarchy of needs requires the fulfilment of the base levels of needs in the hierarchy before moving on to the next level. This hierarchy consisted of the physical needs, air and food etc., moving through to psychological needs for feelings of security, belonging, self expression, self fulfilment, including love, self esteem and ultimately self actualization and realization.

The model Roper et al (1996) echo Maslow's views in describing their activities of living and priority. Maslow's theory of a hierarchy of needs creates substantial difficulties when transferred into nursing. Firstly, Maslow's hierarchy of needs is generated from experimental work using North American students in the 1950s. Walsh (1998) argues that Maslow's findings are questionable, as they do not represent the population in the UK. The categories were developed 50 years ago from a different culture and may be irrelevant today. Secondly (Clark 1992 in Walsh 1998) argues that many of Maslow's concepts are not accurately defined. Subsequently there is no empirical evidence to support his claims. Clark argues that Maslow's order of categories do not form a reliable framework to base models on or for prioritizing patient needs.

In practice, nurse's and patient's needs may be different. A patient may place the higher needs in Maslow's hierarchy before the lower needs, demonstrating the inconsistency of Maslow's framework for care. However, the notion of the patient's priority of need and the staff's priority of need remain relevant to nursing, as the differences that exist between these goals and wants influence the quality of the care delivered and the perception of the care received. For example, the patient on oxygen may feel he/she needs to have a cigarette to steady nerves after waking up from an anaesthetic. By explanation and information the patient would understand why the nurse

is insistent that he does not. The identification of the patient and nurse's needs remain essential for care. There is a necessity to agree common goals in care; otherwise partnership in nursing cannot be achieved.

Nursing Knowledge

This section explores nursing knowledge and the complex relationship between metaparadigm, paradigm, models and theory. Fawcett (1995) outlined the distinction between models, theories and the metaparadigm as a hierarchy of nursing knowledge, offering a useful way to consider their relationship. The nursing metaparadigm is presented as the first level of nursing knowledge, which gives a broad outline of what nursing is.

Metaparadigm

A metaparadigm represents a worldview of a discipline e.g. nursing and outlines the phenomena involved. This allows different interpretations of the metaparadigm concepts as reflected from each specific position as discussed in the section on paradigm (Powers and Knapp 1995). Kuhn (1977) first described a metaparadigm as made up of "global concepts that identify the phenomena of interest to a discipline, and global propositions that state the relationship among those phenomena" indicating the relationship between these concepts. Others have also defined the metaparadigm in a similar manner Kim (1989) and Fawcett (1995).

In nursing the metaparidigm consists of person, health, environment, and nursing, and describes how these areas interrelate (Flaskerud and Haolloran 1980, Jennings 1987). The evidence for these four units came from Torres and Yura (1975), who surveyed a sample of fifty nursing programmes appointed by the National League for Nursing board of review for higher degree programmes in 1972-1973. Their results identified the concepts of man, society, health and nursing as basic to all the programmes and from these the concepts person, health, environment and nursing were identified as being central to nursing. Fawcett (1983) names Orem's self care model (1980) and Johnson's behavioural system model (1980) as examples that contain these four concepts. The Roper, Logan and Tierney model (1996) also claims to contain these four concepts. Nyatanga (1991) identifies that most authors of nursing models accept that all models possess the metaparadigm.

Challenging the concepts of the nursing metaparadigm

These four concepts however, provide no guidance or direction for clinical practice, but represent a broad consensus within nursing. Fawcett (1984) claimed that there was general agreement that these concepts were shared by nursing. However, in a later work Fawcett (1995) acknowledged that this version of the nursing metaparadigm is not definitive and that it should develop along with changes in nursing.

There is disagreement with this version of the nursing metaparadigm, for instance some authors wish to exclude one of the elements on the grounds that they do not reflect the particular perspective of nursing, like 'environment' (Stevens 1979) or 'health' (Kim 1983). Other authors have also suggested modifications, for example in Fawcett (1995), Newman (1983) replaced the concept of 'person' with 'client', Conway (1985) argued for the removal of the concept 'nursing', arguing that as a description of nursing it should not be used as one of the concepts. Barnum (1994) excluded the concept of 'environment' from the metaparadigm and Kim (1987) excluded the concept of 'health' but indicated that the 'client domain' could encompass health.

There are proposed new concepts for the metaparadigm more radical than simply excluding a concept (Fawcett 1995). These include Newman et al (1991) who claimed that the focus of nursing was caring and the human health experience. Leininger (1990 in Fawcett 1995) suggested human care, environmental contexts, health and the centrality of caring as an alternative four metaparadigm concepts. It can be argued that these concepts can be incorporated into the metaparadigm of person, health, environment and nursing. Thorne et al (1998) argues that these debates surrounding the metaparadigm create divisiveness in theoretical nursing rather than defining a common aim and facilitating communication among nurses. However, this discussion shows that the nursing metaparadigm is far from set and open to challenge as nursing develops.

Paradigm

A paradigm is a perspective of a phenomenon that contains concepts, theories, assumptions, beliefs, values and principles forming an approach for a discipline to interpret the matters with which it is concerned. A metaparadigm is a type of paradigm that subsumes more specific paradigms. A metaparadigm is more abstract and gives a worldview, defining the areas of concern of phenomena. Powers and Knapp (1995) define a nursing paradigm as a plan that provides a

framework and orientation to guide nursing. The term 'paradigm' is often used synonymously with 'model' (Fawcett 1995: 3, Powers and Knapp 1995: 118, McKenna 1997: 18). However others perceive it as a more global term "representing a world view" (Stevens – Barnum 1994 in McKenna 1997: 18). The paradigm idea has influenced nursing and there has been movement away from the medical paradigm towards a focus on holism and subjectivity rather than objective science (Walsh 1998). However, the total rejection of objective scientific knowledge in a nursing paradigm is unrealistic in practice, as it informs an essential part of patient care, for example biochemical and physical tests.

McKenna (1997: 19) identifies the work of Stevens-Barnum (1994) and Grahame (1987) who describe four paradigms of nursing theory. The "systems paradigm" where the whole is viewed as a system made up of subsystems and may form part of a larger system. For example a patient can be seen as a system made up of sub-systems (digestive, circulatory or reproductive systems) and be seen within a larger system of family or class. An "Interactional paradigm", based in the symbolic interaction paradigm (Blumer 1969 in McKenna 1997: 19) emphasizes the relationship between people and the roles they play in society. Nursing is viewed as the interactional relationship between nurses and patients. This may be influenced by the roles assumed by the patient and nurse that is, the nurse reacts to the patients and vice versa. The nurses tailor their actions in reaction to the patients. The "developmental paradigm" is based on the work of Freud and Sullivan in McKenna (1997: 20) and focuses on growth, development, maturation and change. This paradigm presents people as continually developing, and the nurse's role is to aid development and reduce barriers to development. McKenna (1997) cites the work of Peplau as belonging to this paradigm.

The behavioural paradigm is based on Maslow's motivational needs theory (McKenna 1997: 20) where it is assumed that the individual seeks to meet their needs. This assumes a level of responsibility and participation from the patients. In nursing, patients who cannot meet these needs are helped and taught how to meet these needs in partnership with the nurses. The work of Henderson and RLT are seen to be influenced by this work (McKenna 1997).

These paradigms however, are open to interpretation and overlap exists between them resulting in debates about which model belongs to which paradigm. The paradigms represent the different

approaches to nursing, allowing broad classification of nursing models, each giving a different perspective of the metaparadigm concepts person, health, environment and nursing.

Guba and Lincoln (1994: 107-108) identified three questions that define the nature of inquiry into a paradigm (an approach to nursing). These are the "ontological questions"; concerning what is the nature of reality and the world in which we live, "epistemological questions"; concerned with the nature of knowledge and the relationship between researcher and their subject and "methodological questions"; the approach and tactics that can be used to generate knowledge. These questions define for the researcher the boundaries of the paradigm and identify the approach used to inquire into the paradigm, where each question influences the answer to the next. In chapter four these questions clarify the approach of inquiry used in this study, where the response to each question influences the methodological approach chosen.

The Structure of nursing knowledge

Johnson (1974) identified that nursing holds different approaches to understanding the patient, this results in nursing practice with contrasting objectives, where the phenomena considered in each are diverse, leading to a particular line of questioning and the subsequent development of a particular body of knowledge. Each category of nursing therefore can have an alternate focus to the patient-nurse relationship leading to different perspectives. This has resulted in the development of different bodies of knowledge about the person, health, the environment and nursing in different situations in nursing.

Philosophy

Philosophy is defined as a statement of beliefs or values. It is another worldview term like metaparadigm, which is used in the literature in respect to describing models of nursing, where two nurses may have a different philosophy about the person (McKenna 1997). Philosophy forms the second level of Fawcett's (1995) view of nursing knowledge showing the relationship between philosophy and the metaparadigm. The metaparadigm of nursing identifies the phenomena about which philosophical claims are made. The content of each model then reflects these philosophical claims. The focus of each model may identify the person as an intergral part of nursing, however two nurses may have a different philosophy as to how they perceive the patient. Therefore, a

philosophy of nursing is a set of general principles of knowledge that nurses work within, to guide care.

The metaparadigm, philosophy and models: the relationship

The metaparadigm outlines the phenomena about which philosophical claims can be made. A model reflects the philosophical claims in its contents and through the unique way it views nursing. Kershaw (1990) gives the following example. A philosophy may claim that all people are equal. This would then be reflected in a model where the nurse and patient would be portrayed as equal in care. Each model reflects the philosophical claims contained within them. Another example is Orem's (1991) model, which views the 'person' as maintaining self care as being an integral part of the person. This philosophy is reflected in the model through the importance of promoting self-care in the framework.

Model or theory; levels of abstraction

In the literature, there is confusion about the difference between models and theories of nursing. Models attempt to describe and assist nursing and have been adopted by the profession as part of the basis of theoretical nursing. Multiple definitions of models and theory exist which are often contradictory and confusing (Fawcett 1995, Barker 1990) and this has contributed to confusion for practitioners grappling with these ideas and attempting to put them into practice. However, these discussions represents a forum where competing ideas can be challenged, clarified and developed further.

Theories are limited in their description of their subject and as such can be tested. Models deal with much broader concepts and seek to explain as much as possible and approach their subjects in general terms with a high level of abstraction (Kristjanson et al 1987). As a result, they are difficult to apply and explore in the practical setting. (As is discussed in chapter four, when selecting the methodological approach.)

I believe the key issue is that models of nursing although presented in many cases as being theoretically derived and empirically based, are in fact highly abstract, speculative and describe how nursing should be and not how it is. Confusion between models and theories leads to

expectations about clinical applicability and empirical testing, which may be inappropriate when directly applied to a model. A model as a collection of values cannot be tested in the traditional empirical manner.

Grand, middle range and practice theory

Theories form the next level in Fawcett's (1995) description of nursing knowledge, presenting them as being less abstract than a model, and testable. This is possible as a theory is specific and contains concepts that predict some phenomena, as such they can be measured and the theory tested. Fawcett places models between metaparadigm and theories, where models are more abstract.

Some writers have distinguished between different levels of theory, describing it in terms of: grand, mid range, micro or practice theories. These differ in their level of abstraction and prediction. Grand theories are highly abstract and are made up of concepts and ideas that cannot be tested empirically. Fawcett (1995) differentiates between grand theories and models arguing that theories are less abstract then models giving an example of a grand theory in nursing as Parse's (1992) theory of human becoming. Others do not agree with Fawcett and uses the term 'grand theory' to describe models in the literature (McKenna 1997). It is clear the terms model and theory are closely linked and that it is a contentious issue.

Mid range theories are more selective than grand theories and are limited to a number of concepts that are specific to a limited aspect of the real world. They predict outcomes and therefore can be measured empirically. An example of a middle range theory is Peplau's (1992) theory of interpersonal relations.

Fawcett (1995) omits practice theory in her discussion of nursing theory. Practice theory is more specific than mid-range theory, and it produces a clinical focus for practice and is less abstract than mid-range theory (Fitzpatrick and Whall, 1996). For example, research carried out on urinary catheters, which produces practice theory resulting in specific theory that directs actions in practice. An example of this is using a closed system of catheter care to reduce urinary infections.

According to Fawcett (1995), empirical indicators are the last level in nursing knowledge. These are used to test middle range theory but are not appropriate for testing models, as the philosophies are not empirically measurable. Empirical indicators represent happenings in the real world and are the instruments, experimental conditions and procedures that are used to observe or measure the concepts under examination. These relate to theories, as they are the operational definitions for each mid-range theory.

How have models been evaluated?

The effectiveness of nursing models in practice has generated much discussion in nursing. Many authors (McKenna 1997, Fraser 1996, Jaarsma and Dassen 1993) recognize the lack of research into using models in practice. Johnson (1983) maintained that models of nursing presented themselves as empirically or theoretically derived, are in fact speculative and not researched based. In reality, models as frameworks for nursing are a set of values and ideas held by the authors of that particular model.

Clarification must be made between theory testing and theory evaluation, whilst they initially appear to be the same, there are some significant differences. McKenna (1997a) clarifies this, arguing that nursing models cannot be directly tested as "it is not possible to test scientifically the under lying assumptions and propositions of some nursing theories it is possible to scrutinize through research certain aspects of care." As discussed earlier in this chapter, nursing models cannot be tested directly but can be evaluated in practice to establish their utility in that environment.

The exploration of nursing models in practice therefore, represents an important development in nursing as it examines and describes the nature of nursing and potentially, assists nursing and influences the quality of care. Silva and Sorrell (1992) identify the importance of evaluating models in practice, and acknowledge that there are few examples of this. A study undertaking to explore a model in practice will contribute to developing nursing knowledge and have a resonance in practice.

The issue that nursing models have not been widely evaluated contributes to the debate that models do not aid nursing. However, others claim that models have a positive effect on outcomes.

Reed and Robbins (1991) argued that although models are widely accepted by the nursing profession and perceived to be beneficial, they might have no evident benefits for practice. Draper (1993) also identifies that there is little evidence to demonstrate that models have a beneficial effect upon nursing outcomes. McKenna (1993) did find evidence to support the use of models through improved outcomes, dependency and attitudes.

It is suggested in the literature that practising nurses are in a good position to evaluate models. Chalmers (1989) discussed the evaluation of nursing models and identified nurses as being in the best position to consider the appropriateness of each model to the health care setting in which they worked, by considering the values and beliefs implicit in the model. Thorne et al (1993) argues for the evaluation of models in practice and suggests that they are useful as organizing structures rather than ends in themselves. Nurses studying the model in the setting where it is implemented can assist in this debate.

Nyqvist and Sjoden (1993) identified a problem with nursing models, in that the distinction between the main themes or concepts held in the model were vague and overlapped. Garon (1992) agreed that the ideas of the model often were so broad and abstract that nurses found them difficult to apply in practice. A nursing model provides a focus and influences our perceptions of what nursing is about (Fawcett 1995). However, models of nursing remain speculative and arguably carry little legitimacy until evaluated and explored in practice.

Tierney (1998) questions whether nursing models can or should be tested. She asserts that this question has become crucial to their survival. The difficulty in testing models in practice is acknowledged, because nursing models are not theories that can be easily and practically tested. As there is no agreed definition of each concept, they do not predict exactly what will happen in care but serve as a representation of it, to guide nursing. This identified difficulty with models does not exclude their evaluation and exploration in practice, where they can be examined and questioned to establish their suitability. Exploring models of nursing in practice offers scope to clarify their usefulness, and identify where there is room for refinement.

Analysis and evaluation

Models need to be explored and challenged. This can be done in three ways, description, systematic analysis and evaluation of models (McKenna, 1997). Description establishes the 'facts' and structure of the model, clarifying its assumptions and concepts whilst outlining its approach. Analysis of a model is a systematic process to ascertain if the model is useful for its function, for instance how effective is it as a guide to practice. Evaluation of models involves the assessment of the contribution that it makes to nursing knowledge. It involves making a judgment of the model and the value that it has for nursing. These three steps represent increasing complexity of exploration of the model, the simple description of the model establishing its general approach and the complex evaluation of the model where it is judged on the contribution it makes to nursing (Stevens-Barnum 1998).

How then, can models of nursing be explored to justify their use in practice? Models are difficult to test in the conventional scientific methodology, as many variables affect the outcomes of care. Due to the difficulty in testing nursing models, many different methods have been developed to analyze and evaluate them (Stevens-Barnum 1998, Walker and Avant 1995). A major criticism of these methods is that they are weak when exploring models in practice. They provide a subjective set of criteria that give facts and insights about the model (Walsh 1998).

A number of other authors have specified criteria for evaluating nursing models and have applied these criteria to some familiar models of nursing (Fitzpatrick and Whall 1996, Fawcett 1995). These criteria consist of a series of questions on analysis involving the origin, evolution, motivation and influences of the model with a focus on the metaparadigm concepts and how they are reflected in the model. Further questions are on evaluation and judge the model on its contribution to nursing in numerous ways e.g. What theory has been generated from the model? Questions are also asked concerning the internal and external analysis and evaluation of the model.

These methods of exploring models lack a dimension for practice in that they do not explore the significance of models in practice. For example Fawcett's (1995: 53) question for evaluation "To what extent is the model used to guide research, education, administration and practice?" Although giving numerous examples in the literature of using models in different contexts

Fawcett offers little critical evaluation of the utility of the model. This aspect needs expanding to include the use of models in different clinical settings allowing for refinement, so that models become relevant to nurses on a day-to-day basis in the practical setting. It is not enough to explore the model theoretically in isolation, without examining it critically in practice.

Reed and Robbins (1991) identified an alternative way to explore nursing models; an inductive approach, which is descriptive, non-interventionist and most importantly based in practice. The frameworks used to explore models provide facts and insight into the models, on which they can be compared and judged.

No one framework has emerged as outstanding; indeed they all have similarities. For instance, they all explore the origins of the model and the metaparadigm. McKenna (1997: 223) identifies five common criteria from a range of evaluative frameworks that can be useful for evaluation. These are how the model was developed, how the model is internally structured (McKenna 1997, Stevens - Barnum 1998), how the model is used (Meleis 1991, Chinn and Kramer 1995, McKenna 1997, Stevens - Barnum 1998) and how the model influences knowledge development. Two questions form McKenna's criterion for influencing knowledge development. The first, *Theory generation,* refers to questions regarding the model and its potential to generate other knowledge or a new direction of exploration. The second questions the *Importance* of the model to the discipline, and identifies how the model helps or hinders the development of nursing. Nurses should ask whether the model contributes to increasing insight into nursing by suggesting new ideas or new ways of looking at a phenomenon.

The last criterion is how the model stands up to testing. Models as guides to nursing practice have not been tested to any extent, by the authors, the researchers or by the nurses who use them in practice. The literature reflects this. Several reviews of research studies conclude that although studies appear to be testing models minimal amounts are occurring (Silva 1986, Moody et al 1988). Beck (1985) and Allen and Hayes (1989) found that few research studies tested the frameworks they were using and that no increase in testing had occurred.

More recently, Jaarsma and Dassen (1993) maintain that there has been small progress in the evaluation of nursing models. Further evidence, is offered by Betz and Beal (1996) who carried out a review of the use of nursing models in 302 paediatric nursing research articles. Using Silva's

(1986) criteria for analysis the results were: six minimal, eight insufficient and three adequate. This agrees with previous results finding that only small numbers of studies are actually analysing and evaluating the models they are using.

Sedlak et al (1998) in a study identifying priorities in orthopaedic nursing, selected care delivery models as a priority for research to advance the practice of orthopaedic nurses. It is essential, they claim, for nurses to consider and question the models they use to structure nursing.

The above issues stimulate the nurse to consider and question the model they are using. These evaluative criteria applied to a model, offer a framework to develop knowledge for nursing. Whilst providing information about the authors, the model and its usefulness these and the other evaluative criteria do not explore how the model itself is reflected in practice.

Evaluation in Practice

Nursing is a practical profession and models claim to guide practice. Therefore, the examination of models in practice contributes to nursing knowledge, as the reality of practice feeds back into the theoretical model. Exploring the model in practice provides a vital dimension for the analysis and evaluation of nursing models. A comparison between practice and the model reflects care; identifying adaptations by staff that feed back and contribute to nursing knowledge and in this way challenge the model through practice. However, evaluating models is not simply about how useful models are for nurses, but must but also evaluate the implications models have on identifying the patient needs and partnership between patients and nurses.

There is a scarcity of evaluative research looking at models in the clinical setting. Murphy et al (2000) examined the use of the RLT model for planning nursing care in psychiatry. They used a care plan audit and nursing interviews to evaluate the extent nurses were using the model. They found little evidence of nurses using the model, where goals and intervention were not explicitly documented. On interview, staff found the model constraining, physically orientated and they lacked knowledge and understanding of it.

Another work by Faucett et al (1990) compared two wards, one that was implementing Orem's self-care model, the other remaining with the traditional method. They carried out a survey of the

care plans and interviewed the staff of the two units. They found that the documentation showed little difference between the groups. However, the model ward had a more comprehensive approach in assessment and a consistency in assessment of patients. They also found that the model ward had a greater interest in securing patient participation in goal setting, placing care in a strong ethical position.

McKenna (1993, 1995 a, b) has explored the implementation of a nursing model developed by Minshull et al (1986). This involved the Human needs model (HNM) in a long stay psychiatric ward, using predominantly quantitative research methods to identify the effects of models on quality of care. McKenna used an action research approach and a broad quasi-experimental design, using quality of care indictors for evaluation before and after implementation of the model. Using a control and experimental ward, data collection occurred in both wards, once before, and twice after implementation. Results indicated statistically significant improvements in the quality of care offered to patients, perceptions of ward atmosphere, patient satisfaction, staff's views about models and dependency levels. This study shows that a model of nursing can positively influence the outcomes of care.

McKenna at the end of his study identifies the limitations of quantitative approaches and recommends that qualitative methods could contribute to the exploration of nursing models. This would address the difficulties of exploring model in practice, as a qualitative methodology is suited to analyze and evaluate the concepts and assumptions in a nursing model. Reed and Robbins (1991: 1351) suggest an inductive approach to provide a valid means to explore models of nursing;

"Rather than attempting to control and measure variables in a quasi-experimental way, there is potential for ... descriptive research to explore the validity of nursing models."

There is a lack of evidence to support using models in practice, representing a significant gap in the literature (Hardy 1986, Luker 1988, Silva 1987, Murphy 2000). The nature of nursing models makes it difficult to apply consistent change and measure their effects. Fraser (1990), and Reed and Robbins (1991) identify a qualitative approach as offering a solution to the exploration of nursing models in practice. Whatever criteria are used to evaluate models the important factor is that models should be extensively explored rather than accepted unquestioningly (Steven-Barnum 1998).

Conclusion

There is evidence to suggest that nurses are experiencing difficulties using models in practice (Murphy 2000, Goorman and Berg 2000, Fraser 1996, Mason and Chandley 1992). An examination of the evolution and history of nursing models suggests that they are based on little research and have been accepted unquestioningly as a guide for nursing research, practice, education and administration.

Until a significant body of evidence is established, the effect of models on care is unknown, emphasizing the requirement for the exploration of models in practice where unchallenged models form the basis of nursing care. There is a need to explore models of nursing currently implemented by nurses in the UK.

Nurses need to consider the influence of models of nursing in partnership in care and the needs of the patient.

I suggest that the criteria, evident in the literature, to analyze and evaluate models lack the dimension required for the exploration of models in practice. This represents a significant difficulty in a profession that is practically based.

The literature highlights the need for nurses working in practice to explore existing nursing models. This chapter shows little evaluation of models in practice, which has implications for the professional development of nursing and quality of care. It is clear from the literature that the exploration of models of nursing in practice is required to legitimize their use.

The literature reflects the relationship between models, theories and the metaparadigm. This acknowledges that the differentiation between the terms model and theory is a contentious issue. In this thesis grand theories are taken to be models of nursing. This chapter places nursing models in relation to the rest of nursing knowledge outlining their nature, and giving insight into how they can be used effectively in practice. However, the abstract nature of nursing models creates problems in defining the propositions and assumptions that guide nursing, making them difficult to evaluate.

One model of nursing that is commonly found and widely adopted in Britain in practice and education (Allen 1995) is the Roper, Logan and Tierney model (1996). The following chapter critically evaluates this model of nursing, examining its conception, use and exploration by the nursing profession.

CHAPTER THREE

A Critical Appraisal Of The Roper, Logan And Tierney Model.

Introduction

The previous chapter considered the debates about nursing models and provided a context for this study, which is an examination of one particular model that was developed by Roper, Logan and Tierney (1996). This model was used in the practice setting as discussed in chapter one. In this chapter the Roper, Logan and Tierney Model of nursing (RLT) will be discussed, beginning with the origins of the model, its background and how it was developed. This includes a critique of Roper's original study (1976) and a discussion of the significance of the work of Henderson's Needs based model (1966) to the emergence of the RLT model (1996). The use of problems, as opposed to needs, is then discussed, identifying the issues surrounding the use of problems for nursing practice.

An outline of the basic structure of the RLT model is then presented. Its contents are expounded and issues surrounding the nursing role are raised. The significance of the twelve activities of living (ALs) are then addressed, followed by how the model has been explored and tested to date. The underlying concepts and assumptions held by the model are noted and the perspectives from the model of the paradigm concepts, person, health, environment, and nursing are also included. How the model reflects the trends of patient centred care, patient participation, holism and independence and how these relate to needs and problems, are discussed in detail.

The Roper, Logan and Tierney Model of Nursing.

The RLT model is one of the best known and most used models of nursing in the UK today (Tierney 1998, Fraser 1996, Allen 1995). It is used to teach nursing to students, both on the ward and through curricular design (Kilgour and Logan 1985). It is also used by trained staff when giving care (Page 1995, Martain 1993, Murphy Black 1992, Roper, Logan and Tierney 1983g) and was developed in Edinburgh. The origins of the RLT model (1996) began with Roper's original model of nursing that was first published in 1976 and was based on a research project to identify the core of nursing.

Roper's (1976) study consisted of a search of the literature for other work that related to the identification of a core of nursing, but none was found. Roper proceeded to gather data by examining case studies of all the clinical areas that students attended from one college of nursing. Information from 774 patients was collected from four different areas and in twelve community district and general hospitals, one psychiatric and one maternity hospital. Roper (1976) did not describe what type of data was collected from the patients, but did state that it was important to have information about the nursing experience available to nursing students, to enable objectives in each area to be formed. The study took into account the experiences of the nursing students, and it was from this that the core of the model was developed.

Following the 1976 work of Roper, Logan and Tierney joined her to develop and refine the model. The results were published in 1980 as the Elements of Nursing. Since this first edition, three further editions have been produced (1985a, 1990, 1996) each refining the model further, taking into account comments and feedback from nurses using the model.

After the first edition of the elements of nursing they published two other books, Roper, Logan and Tierney (1982) Learning to Use the Process of Nursing and Roper, Logan and Tierney (1983h) Using a Model for Nursing. These were developed to help the nurse to use the model and the nursing process together, to give care to patients. The authors used the nursing process itself to take account of criticisms and they re-evaluated their work at each new publication. So there has been continually development of the model.

The RLT model (1996) was created using the model of living, which was developed through and for education, as it was what the student nurses were experiencing that influenced Roper's (1976) study. It is significant that student nurses and not staff nurses were used in Roper's study. This may have altered the results. Since ill health for most people is only a relatively short period in their lives, Roper surmised that the same frame of reference as in living could be used when carrying out nursing (that is to concentrate on the activities that we require to live). It was intended by doing this that there would be reduced disruption of the patients' lives during the period they required nursing (Roper and Logan 1985b).

Roper, Logan and Tierney each came from educational backgrounds. This made the model a tool for teaching nursing, but may have limited its use for practice. It could be argued that the model is

for education and not practice. The fourth edition of the elements of nursing represents the most recent changes and is currently being used both in the UK and abroad in Europe and Australia (Roper, Logan Tierney 1996).

The Model

In the Elements of nursing book (1996) Roper, Logan and Tierney explain the model to nursing staff and students. They outline how the model could be used in practice (Roper, Logan and Tierney 1983a). It was presented from a health rather than disease focus, where disease is seen as the problem caused by the illness, which disturbs the activities of living (Sullivan 1989, Roper and Logan 1985, Kilgour and Logan 1985). The model is comprised of five main components, which are:

1. The twelve activities of living
2. Life span continuum
3. Dependence / Independence continuum
4. Factors influencing activities of living
5. Individualizing nursing.

Figure 3.1 showed the model for nursing and how the five components fit together. They believed that the model captured the core of nursing (Roper, Logan and Tierney 1996) and that by using it, minimal disruption of the patient's pattern of living occurred. When designing nursing care, the first four components of the model were used to identify each patient's individuality in their normal lives so that the nurse, through the nursing process, could give individualized nursing care, which was the fifth component. In this way there was a strong link between the model and the nursing process, which was advocated by the authors, to be used to assess, plan, implement and evaluate care (Yura and Walsh 1967, Roper, Logan and Tierney 1983 a, b, c, d, e and f).

Roper, Logan and Tierney (1996) believed that the framework of the model was sufficiently broad and flexible to allow it to be used with ease in any field of nursing and also provide the student with a common core to take to each area that they work in. They maintained, that more valuable than this, was the way the patient was viewed by the model. The patient was central to the model and any nursing required could be tailored to the individual's circumstances through the nursing process, with the aim that care was not imposed on the patient by the nurse, but worked out in

collaboration.

The twelve ALs were seen as the focal point of the model and can be seen in figure 3.1. The authors claimed that it was the ALs that were fundamental to the model, as they provided the individuality and personality of the patient, who is central to the model. The role of the nurse in the model was viewed as,

"Helping people to prevent, alleviate, solve, or cope positively with problems (actual or potential) relating to the activities of living" (Roper, Logan and Tierney 1996: 35).

They implied that by acknowledging problems as actual or potential, nurses could deal with existing problems and with prevention where possible. A summary of the role of the nurse can be found in Roper, Logan and Tierney (1996: 35).

When assessing the patient, five factors were identified by the authors to help guide the nurse (Roper, Logan and Tierney 1996: 24, 42) these were:

1. Biological
2. Psychological
3. Sociocultural
4. Environmental
5. Politicoeconomic

These five factors are related to the other aspects of the model and are interdependent. The authors pointed out that when assessing patients it might be difficult to separate these factors from one another. They highlighted some general issues essential to give care, which related to the patient's health and illness. This is a basic outline of the model showing its main parts. A fuller explanation is beyond the scope of this section and can be found and referred to in the most recently published Elements of Nursing book (Roper, Logan and Tierney 1996).

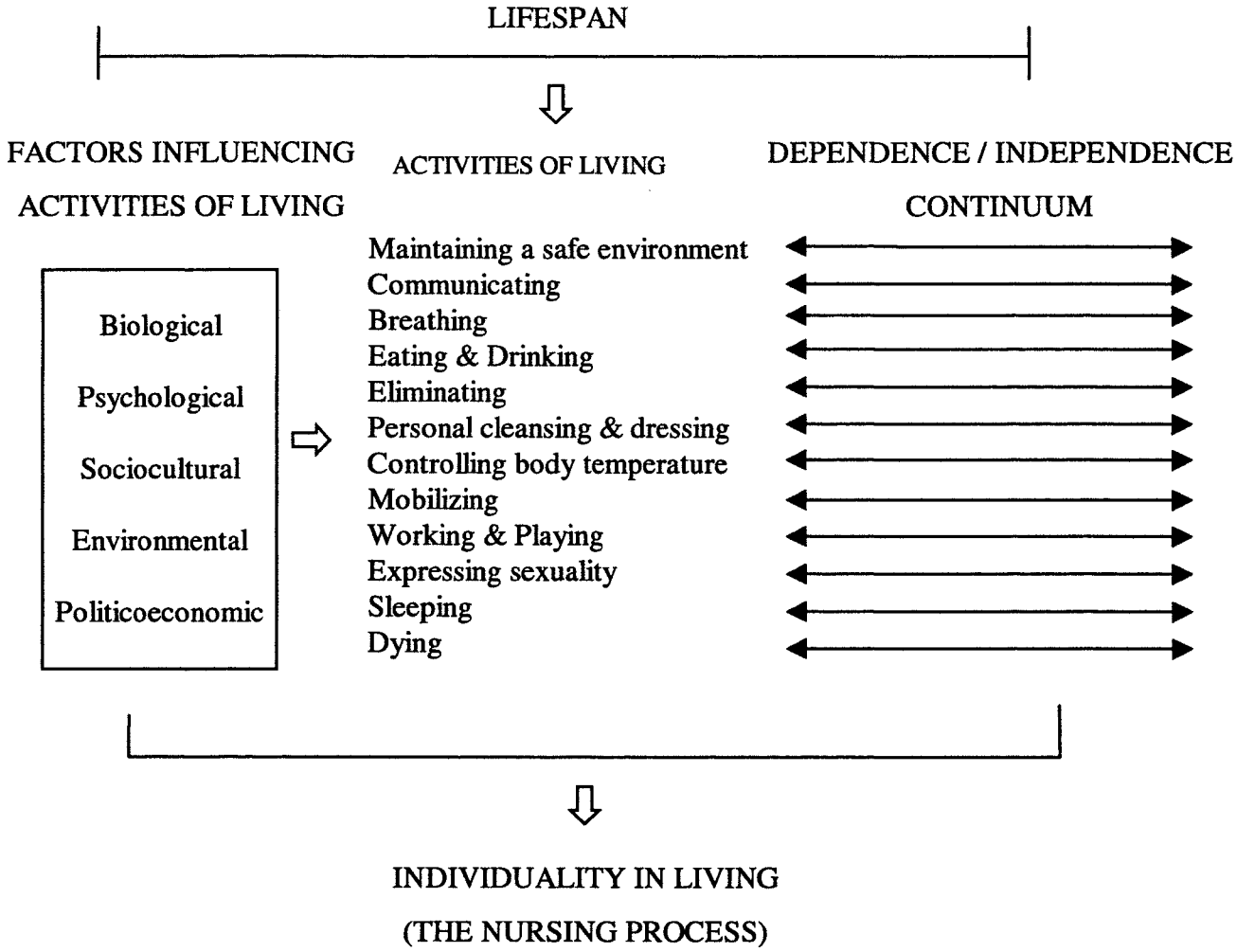


Figure 3.1 A Diagrammatic representation of the Roper, Logan and Tierney Model.

In chapter two a model of nursing was described as a set of concepts or statements that were logically related to provide a unified whole (Chinn 1983, Fawcett 1983, Fitzpatrick and Whall 1983). The authors of this model defined the concepts and statement expressed within the model by their logic, beliefs and values of what they saw as important in nursing. Roper, Logan and Tierney cited thirteen assumptions that they had made in their model of nursing (Roper, Logan and Tierney 1996). These assumptions identified by the authors direct the way the model is used. They presented an image of nursing consisting of the main concepts and essential components, prescribing a role for the nurse.

The importance of individuality in the model is represented in the following assumptions:

"The activities of living carried out by each person contributes to individuality in living".

"The individual is valued at all stages of the lifespan".
"An individual's knowledge, attitudes and behaviour related to the activities of living are influenced by a variety of factors, which can be categorized broadly as biological, psychological, sociocultural, environmental and politicoeconomic factors".
"The way in which an individual carries out the activities of living can fluctuate within a norm for that person."
"During the lifespan, most individuals experience significant life events, which can affect the way they carry out activities of living, and may lead to problems, actual or potential." (Roper, Logan and Tierney 1996: 34)

The authors also identified individuality as a cornerstone of the model. This was accomplished by using the four stages of the nursing process, which work flexibly together through continuous feedback. The stages are assessment, planning, implementation and evaluation. (Yura and Walsh 1967). Roper, Logan and Tierney (1996: 51) described the process of nursing as "neither a model nor a philosophy" ... "but a simple method of logical thinking". This, they claimed, needed to be used with the model to achieve individualized nursing.

Each nurse using this model may hold his or her own set of values that may or may not fit with all of these views. The assumptions of RLT are of course open to challenge, for example "that individuals are valued at all stages of their life span", suggested that all patients were valued equally. Although this is a noble and commendable view, it does not reflect reality. There are different levels of values and areas of priority in a health care service with finite resources. The elderly, alcoholics, drug addicts, mentally ill and suicidal patients may not receive a bed in an intensive care unit or a transplant when competing with a younger, healthier, less complex scenario. The patient most likely to succeed is given priority. This has implications for nurses, who may be participating in such decisions, as their own personal views may clash with the model's assumptions (Raymond and Greengrass 1999, Hall 2000).

Another assumption stated by the model can also be challenged, This concerns independence in the ALs. "While independence in the activities of living is valued, dependence should not diminish the dignity of the individual" (Roper, Logan and Tierney 1996: 34). This may cause problems, as the nurse projects the image that it is acceptable to be dependant and that the patient is not a burden. This is a very positive view, but it denies the patient's feelings of loss, anger or

embarrassment at being in this position. If the nurse is unaware or ignores these feelings and the patient is unable to deal with them, it could have significant repercussions on their motivation and progress e.g. quadriplegia or paraplegia resulting from a spinal injury.

Partnership and the model

The view of the patient may also differ from the model. Another assumption identifies the autonomous, decision-making power of the patient. "Within a health care context, nurses work in partnership with the client / patient who, except for special circumstances, is an autonomous, decision making person" (Roper, Logan and Tierney 1996: 34). The patients however, may voice that they do not want to be involved in decisions about care; they autonomously choose not to be involved and implicitly trust the nurse (Tmobranski 1994, Levin et al 1977, Ruane-Morris 1995). Other nursing models also promote the nurse-patient relationship as a partnership, asserting that care should be negotiated rather than inflicted. This assumption, whilst acknowledging the partnership between the patient and the nurse, must also recognize when the patient denies being in that partnership. The model assumes that care is negotiated with the patient but offers no guidance for this. The individual nurse using the model must be flexible enough to adjust it to the patient's unique position and consider the underlying assumption.

It has also been assumed that the model should be patient centred and not nurse centred. This is also identified by others, including Luker (1988). Rourke (1990) identified a difficulty where nursing care was focused on individualistic, client-centred needs. The individual is potentially reduced and dehumanised by the process of nursing as attention is targeted on the individual's shortfalls. In support of this Aggleton and Chalmers (1986) have stated that because the nurse's attention is focused on the ALs and problems occurring with these the model centres attention on the negative aspects of the patient and so increases the risk of labelling.

Appraisal of the Roper, Logan and Tierney model using Henderson's work.

The work of Virginia Henderson was chosen to appraise this model as it is one of the most well known and was historically one of the first of this kind of model to be identified. It was also thought that a comparison between models would be useful in exploring the common themes found in different models.

In the Elements of Nursing book, Roper, Logan and Tierney referred twice to Henderson, the first where they cite Henderson's (1969) description of nursing mentioning the fourteen components of basic nursing care, but they do not say how this work had influenced them. The second is where Henderson's (1960) definition of the function of a nurse is used to describe the role of the nurse (Roper, Logan and Tierney 1996).

The work of Henderson has played a significant role in the emergence of the RLT model. The two models have parallels that can be drawn between them. Roper, Logan and Tierney do not acknowledge Henderson significantly in their work but they do hold similar views on the role of the nurse, their attitude towards the medical model, the fourteen basic needs and the twelve ALs, factors affecting needs / ALs, age and lifespan continuum, and their views on independence and assessment.

Aggleton and Chalmers (1986, 2000) linked both these models with the medical model. Henderson's and the RLT model identified biological, psychological and social aspects as influences on health behaviour, but differed in the emphasis they put on each when planning care. Aggelton and Chalmers argued that by not analysing in detail psychological and social aspects on behaviour in health, they encouraged the acceptance of the interpretation offered by the medical model, with its emphasis on physical causes of illness.

Another example of similarities between the two is patient focused care. Roper, Logan and Tierney (1996) describe the importance of continuous assessment using the nursing process. Henderson's model does not directly recommend the use of the nursing process but argues that the assessment of patient's needs should involve negotiation between the patient and nurse. The RLT model advocates strongly continuous assessment with respect to patients, where the twelve ALs are used as a basis for assessment of an individual's needs. The RLT model advocated involving both the nurse and patient in considering each activity in turn, identifying previous routines, coping mechanisms and actual or potential problems, using either all of the ALs or focusing on a few. Both of these models advocated patient centred care and patient involvement wherever possible.

There can be little doubt that Henderson's work contributed significantly to the R.L.T. model. R.L.T. have developed these ideas by using the visual analogue continuums, tying the themes into the twelve ALs and using the nursing process.

Needs versus Problems

Roper, Logan and Tierney have had some debate about the use of ALs rather than needs. In his hierarchy of human motivation Maslow (1971) identified different levels of needs, where one level was completed before the next could be attempted. Roper, Logan and Tierney used activities instead of needs as they had an advantage, in that they were observable and could be described or measured more easily (Roper, Logan Tierney 1996). They argued that it was not easy for a nurse to assess needs and it was less difficult to describe a person's behaviour in relation to the ALs. The literature shows dispute about the meaning of 'needs'. Roper reasoned that need tended to have a negative connotation and activities were valued by the author as more positive. Roper (1976: 221) saw activities as "more descriptive and appropriate when considering a nursing model".

Reed and Robbins (1991) also commented on the use of needs or ALs, and said that although the ALs were observable and measurable in some form, this did not address or acknowledge potentially important needs of the patient that were not highlighted by the ALs. As those needs were not easily identified under the ALs and were difficult to measure, this did not negate their importance to the individual patient and they did require addressing, for example, pain and anxiety about the unknown.

In their model Roper, Logan and Tierney contend that they specifically avoided the concept of need, preferring the identification of patient problems linked with ALs, because the problems were the behavioural manifestations of the patient's needs (Roper, Logan and Tierney 1983c, Roper and Logan 1985). Problems were chosen over needs as the authors felt that problems, although difficult to identify, were less vague than needs and would be easier to use.

Nurses have experienced difficulties in using problems to plan care. Page (1995) discussed community care and the suitability of the Roper, Logan and Tierney model. She identified that health visitors were concerned with the needs of their patients, not problems that the patient may

not perceive, and a model that automatically assumed the existence of problems was not appropriate. This may also be relevant in the case of pregnant women, who do not consider themselves ill and the notion of problems is as negative as needs, if not more so.

The use of activities and problems in the model can create difficulties for staff in practice. McClune and Franklin (1987) used the RLT model in an intensive care unit (ITU) and identified several difficulties. One was relating to the ALs, and problems. The activities, rather than the person became the focal point of the model, reducing the patient into parts, which did not fit with the holistic approach to care on that ward. They felt that using the activities as a framework for care plans, which all members of staff used, did not aid communication but created an additional barrier with other members of staff. They addressed a desire to move away from the situation where patients where viewed as a set of problems and nurses, the problem solvers. Where care plans referred only to actual and potential problems this view may have been encouraged, although this was not the intention of Roper, Logan and Tierney.

McClune and Franklin (1987) suggested a way to overcome this, where patients needs were used, which included their problems, allowing a more holistic view of care. Using needs solved the difficulties of long, repetitive care plans and stopped the process of recording every potential problem and the standard preventative measure. Only what happened to the patient was recorded in the terms of needs and a clear picture of the patient's specific individual needs emerged. This allowed intervention and prevention to overlap, resulting in clearer care plans that reflected what was happening to patients.

The use of needs in this way may also help to address the issue of whose problems are recorded, those of the nurses or the patients. The RLT model encouraged the use of patient centred problems, but in practice they can become nurse centred. The use of needs overcome this by incorporating potential and actual problems together, so that the needs and problems remained patient centred.

Reed and Robbins (1991) identified difficulties of category fit when using the ALs. Some problems identified by staff could not be fitted into the model, or they could be placed under several activities. Again, this encouraged confusing and time wasting repetition in care plans that did not easily communicate the aims of care.

Prioritization and the Model

Roper, Logan and Tierney briefly mention prioritising the twelve ALs (Roper, Logan and Tierney 1996). They said that nurses must be aware that different circumstances create different priorities and nurses must apply common sense, and professional judgement, in making decisions about the relevance of the ALs for any particular person. One or several may merit consideration at certain points in a care plan. However as Roper, Logan and Tierney rejected the use of needs the nurse was encouraged to plan care in behaviourist's terms of the ALs, which did not always cater for the wants and needs identified by both patients and staff. Rourke (1990) considered the use of Maslow's hierarchy of needs as a way to help identify patients' needs, and thus improve care.

Evaluation of the Roper, Logan and Tierney Model

Few research articles were found, which addressed the Roper, Logan and Tierney model and involved research. These all took place in the 1990s (Reed and Robbins 1991, Reed 1992b, Murphy-Black 1992, McKenna 1994a, Bellman 1996, Webb and Pontin 1997, Murphy et al 2000). The other article was the original work by Roper (1976a) as already mentioned, which identified the common 'core' of a model for living, on which to base a model of nursing.

Reed and Robbins (1991) gave an overview of the issues surrounding the development and use of models in general and presented research, which indicated that the RLT model could be problematic in giving care to some kinds of patients e.g. the elderly. They raised two issues, firstly that the idea of the universal model of care may be inappropriate and secondly, that models of nursing were difficult to test due to their nature. In solution to this they suggested an inductive approach as a method to explore nursing models. Their study involved two long term care wards and one acute rehabilitation ward. They carried out interviews with staff, studying a total of 82 care plans for references to mobility, which led to the discovery of some problems using the RLT model to plan care.

The nurses experienced difficulties in fitting the patients into the prescribed categories of the model, due to the 'blurring of boundaries' and they often repeated problems in several different ALs in the care plans. Staff on long-term care wards also felt that the care plans were a "paper

exercise" and that they did not reflect the actual problems encountered, or the care given. Roper, Logan and Tierney (1996) identified these problems in the Elements of Nursing. Their solution was to refer the nurse back to the original work and implied that these problems were due to lack of familiarity with the model rather than a possible failing of the model itself. Reed and Robbins suggested that other models may be failing in a similar manner, where sections and categories of the model are too narrowly defined. They advocated the development of nursing theory through descriptive research to explore how nursing was, and so develop theory in a way that could be made useful to nursing practice.

The article by Murphy-Black (1992) was a survey carried out into how the 'nursing process or models' were in operation or planned in 53 maternity units in Scotland. The respondents were asked to describe the process or model used in their unit. The main features of the process or model involved were described as, individualised care, patient involvement in decisions for care, a health rather than a sickness model and a holistic approach. Some units also named specific models. Three stated that they used the RLT model. A further two said they used the RLT model in collaboration with the midwifery process. From this was concluded that some 60% of Scottish maternity units were using the nursing / midwifery process or a model. However there was considerable confusion about what these terms actually represented.

Jukes (1988) surveyed, Senior nurses and tutors in ten English health authorities concerning the frameworks used in the assessment of mental handicap. He found that there was a poor link between education and the service and that the introduction of models of nursing was mostly a 'classroom activity' except in three health authorities. The RLT model was favoured by four out of the ten authorities and Jukes (1988) went on to say that some valued the models as 'useful assessment tools and others did not', however no details of these were given.

McKenna (1994) carried out a questionnaire study on attitudes to models that involved twenty second year undergraduate BSc Nursing students and twenty, third year 'traditional' (RGN) students. Nine studies were reviewed in this article. All examined models of nursing in education, three of which took place in Britain. The conclusions drawn, were that traditional nursing students had a more positive view of models than the undergraduates and perceived themselves as being ready to use the models. A suggested reason for this was that the undergraduate students, who were actively encouraged to criticize models were perhaps more aware of the inherent

limitations of the models and the lack of empirical research and because of this were more undecided about the merits of models. McKenna (1994) also comments on the increasing criticism of nursing models taking place in the 1990's, which have been gaining more credence, possibly in reaction to the unchallenged acceptance of nursing models in the 1980's.

Bellman (1996) carried out a study involving action research and the RLT model which focused on the independence / dependence continuum. She identified that staff had varying levels of knowledge and conceptualisation of the RLT model and experienced difficulties linking the model with practice. Webb and Pontin (1997) conducted an action research programme into the introduction of primary nursing, using an audit tool based on the RLT model, which formed part of a study evaluating the introduction of primary nursing. This model was chosen as it was the model being used on the wards. They found that although all wards claimed to be using the RLT model to structure care, there was little evidence in the care plans to support this and included sparse information recorded in the assessment.

These studies show that research into the RLT model is meagre. The supposition that staff regard the use of models as a classroom activity raises questions on how the model is used in an actual nursing situation. Which parts of the model are staff using and what difficulties, if any, do they encounter when using the RLT model in practice? These articles show how this perceived, much used model in practice, has been sparsely researched and offers scope for more.

The Importance of Care Plans

Reed (1992) concluded that care plans were of particular interest to nursing research because they not only reflected the world which they take place in, but also act as social constructs, influenced by their authors. The care plan analysis in Reed's study showed that the RLT model was used to varying degrees by the different wards. Some followed it closely and others selected what they deemed useful from the model. This identified the care plans as a valuable source of data in exploring how a nursing model is reflected in a practice environment.

The Roper, Logan and Tierney model reflected in practice.

How the Model is Presented: Few Critical Accounts

Martain (1993) and Dyer (1985) both used a case study presentation of their experiences of giving care using this model. Martain stated that the RLT model was used, and then focused on communication. These were the only references to the RLT model in this article. Like many articles claiming to use models, there was only fleeting reference to them and little discussion of any problems found. Although not directly attributed to the model Martain (1993) identified the importance of additional needs that staff were unable to give to patients, but that other parents and patients were.

Kilgour and Logan (1985) focused on using the model for curriculum development in nursing. Dyer, Kilgour and Logan both gave descriptions of the RLT model and how it was used but offered no critical appraisal when using the model in practice.

Identified Difficulties with the Roper, Logan and Tierney Model

Page (1995) considered the RLT model and its use in the community. Like Draper (1992) and Walsh (1991) Page explained that models must be used flexibly, where staff could question and change the model to suit their position and not follow the model rigidly. Page identified difficulties with the model e.g. the model is focused on adult hospital care. It could promote reductionism and ritualistic nursing. It concentrated on negative physical problems and lastly it seemed to have been adopted unquestioningly, staff prompted by pressure to use a model of nursing by nursing schools and hospital management.

Allen (1995) talked about promoting the humanistic part of nursing and was concerned that the model, and its rejection of comforting from the nurses' role, in a bid to be more professional, would lead to an over emphasis on Science, resulting in a loss of the humanistic base for practice.

Oijen (1995) criticised the model and its approach to the issue of sexuality, arguing that it is not appropriate to assume this is a factor in every patient's care and as such should be discussed as a matter of course as is the case in the ALs.

Draper (1992) cited Roper, Logan and Tierney (1985) and maintained that models should change and adjust or be discounted if they were not found to be useful. Draper pointed out the consequences of applying models in practice, citing the difficulties of fitting the care plans to the model. That is, when nurses experienced the difference between what was taught and the reality of practice, role strain resulted.

Rourke (1990) criticized the RLT model, finding it ritualistic during application and dehumanizing as nurses focused on problems. Luker (1988) examines the usefulness of models in the community setting and identifies several difficulties. These were that it was directed towards hospitals where the nurse has more influence over care, which was not true in the community. Secondly the focus on the individual often excluded family and societal factors that greatly influence community care. The model also assumed that individuals have free choice, which was not always the case for patients both in the community and the hospital setting. Lastly Luker (1988) identified that if the model was to improve care it must focus less on assessment and problem identification and more on methods of giving care and its evaluation. Assessment and problem identification did improve daily working, where the aims of care were clear, but this may lead to an illusion that practice had improved, where in fact the delivery of care remained unchanged.

Minshull et al (1986), Aggleton and Chalmers (1986) and Fraser (1996) all noted that the RLT model directed its care towards physical aspects, which were strongly reflected in the ALs. They went on to link this to the medical model with its strong emphasis on physical care.

Ruane-Morris (1995; 565) gives a description of the RLT model in practice, and shows difficulties using the model. Ruane-Morris resolved these using the works of Neuman (1972) and Peplau (1952) to meet the requirements of the unit. This adaptation was precipitated by the impression that the RLT model "Did not do all that was required" and a desire for a model that "explicitly considered the factors affecting the individual". In conjunction with this, a patient was dissatisfied with his care plan, which had failed to identify his needs, and was based on a perception of his needs by someone else.

Another example of using the RLT model in a care study was Rowe (1995) who recommended the use of the RLT model. Rowe (1995) had difficulty in categorising certain problems as they related to so many ALs, for example, the blurring of the issues identified and difficulties

prioritising closely related problems. McClune and Franklin (1987) adapted the RLT model for use in intensive care when they had problems using the model in practice as a framework for care. They identified problems related to the ALs and to the terminology of the nursing process. They found that by using the ALs, individuals were not treated as a whole, which magnified the emphasis on physical care and a loss of the individuality of patients. They also identified the twelve ALs as a barrier to communication between staff, particularly medical staff. In solution to these difficulties they discarded the ALs and used the influencing factors as the framework for the care plan. They found this promoted communication and accommodated for role overlap. They also adapted the dependence / independence continuums into a tool used for goal setting and assessment. Intervention and prevention were encouraged and challenged staff to seek new ways to maximise their patients' independence. They selected needs rather than problems for care planning, finding that problems focused on negative aspects and did not allow for the overlap of actual and potential problems, which reduced the role of the nurse to a problem solver. By using needs the nurse could deal with problems as well as needs giving a holistic view, where intervention and prevention could be dealt with together.

Fraser (1996) reviewed the RLT model in chapter two of her book. Nine articles were addressed that used the model in some form. From these articles Fraser concluded that there was little evidence of the strengths of the model as the articles were presented like care studies rather than research based and so failed to identify problems the model caused. Fraser went on to say that the studies extended this problem by not using the nursing process and so problems created by the model for nursing care were not identified. Fraser also identified a move to use American models, which some found to be more suitable (Parr 1993b). Fraser asserts that there has been a general decline in the use of the RLT model, which is reflected in the literature, and that this could be reflecting a loss of popularity. Although this may be the case the RLT model is currently used country wide.

Models and the Metaparadigm.

Many authors have advocated ways that models could be explored. Chapter 2 has already placed nursing models in the framework of nursing knowledge, identifying the relationship between metaparadigm, models and theories. One way that models have been viewed is through the metaparadigm. The metaparadigm represents a set of global concepts that outline the limits of any

discipline and has been used as a way to explore models of nursing (Fawcett 1995). This represents one way to examine the RLT model and uncover its approach to nursing.

Person

The RLT model communicates these concepts. The concept of person in the RLT model is characterized by the twelve ALs and how the uniqueness of each person is reflected in these. The model focuses on the individual person rather than a group or family, although there is scope for others to be included. Where another person is involved it is normally in relation to how they affect or participate with the individual, in respect to each of the ALs. This could be a complication in some situations where an individual was not the only focus, for example with a mother and child, or community care where the family becomes the focus. A person's needs may give precedent to other considerations, where there is a conflict of what are the patient's needs, and those perceived by the nurse.

Health

In the most recent publication, Roper, Logan and Tierney introduce their concept of health and its diversity (Roper, Logan Tierney 1996: 4-9). They discussed the difficulty in defining at what point each person is healthy or ill and described it as a subjective element that can best be identified on a health / illness continuum that is different from person to person, and reflects their image of health. When identifying the need for nursing, instead of referring to health or illness they choose the independence / dependence continuum to select where each individual requires nursing care to help maintain their independence, or to accept and cope with dependence. In this way, cases where the patient was not seen as ill i.e. physically handicapped or pregnant but requires nursing, can be met.

Environment

The concept environment refers to any place where nursing of an individual takes place. In the RLT model this includes the physical environment, biological, psychological, sociocultural, politicoeconomic, religious aspects and internal environments. In the past the RLT model has

been heavily associated with hospital institutions and nursing occurring within them. This was influenced by the model originally being created as a teaching tool, which resulted in it being introduced into hospitals, where students spent most of their training. It was then implemented widely. Another factor relating this model of nursing with hospitals is the strong association that nursing itself has within hospitals in the past 100 years. The formation of the National Health Service, and major development in science and technology has left nursing fixed in the layman's mind as synonymous with hospitals. Recently this has been changing, with awareness about health care services in general, and increasing interest in community health.

Nursing

The last concept, nursing, itself is clearly defined by the model. "Nursing is viewed as helping people to prevent, alleviate, solve or cope positively with problems (actual or potential) related to the activities of living. In recognizing that these problems may be actual or potential the nurse not only responds to existing problems but is also concerned with prevention" (Roper, Logan and Tierney 1996: 35).

In this way the model reflects the four concepts of the metaparadigm, which represent basic concepts that different models have in common. One issue to note of the metaparadigm concepts is that although considerable consensus about these terms exists, the meanings of each one is open to interpretation. This is evident in the continuing discussion and the current absence of a universal definition of what nursing is.

While the metaparadigm provides an impression of the model and is useful as a tool to understand the approach the model advocates, it gives no help in evaluating the model in practice. It is in practice, where the many frameworks of analysis and the metaparadigm, fail to aid the nurse in judging the worth of a model and if it influences nursing care in a positive manner (Fawcett, 1995, 2000, Fitzpatrick and Whall 1996, Stevens-Barnum 1998, Walker and Avant 1995, as described in chapter 2). The metaparadigm is a useful framework to understand models, however is too global and non-specific to be useful when evaluating models in practice.

The Patient's View

Mascord (1989) challenged the presumption that the patient will automatically benefit from the use of nursing models and posed the question from the patient's viewpoint, "Do models benefit patients?" She did not answer this question, but recommended an exploration into the perceptions of nursing and how the patient experienced care. Roper, Logan and Tierney, as has been outlined, recognized the importance of acknowledging the patient's view, and recommended organizing care to take this into account. This reflects government papers that identified the importance of including patient's views in care, whilst also promoting their increasing responsibility for care (Partnership in Action D. o. H. 1998, Patient Partnership: Building a Collaborative Strategy. D. o. H. 1996, The Patient's Charter D. o. H. 1995. The New N. H. S. D.o.H. 1997) These advocate increasing involvement and responsibility of patients in care wherever possible, and indicate the patient's perspective is becoming an issue in care, that should not be ignored.

Conclusion.

In this chapter the history and development of the RLT model has been summarized, outlining the key concepts. The literature revealed that the RLT model, although much used, has had little evaluation to date and that nurses are experiencing difficulties using the model in practice. The research that the model is based on has been evaluated critically, raising issues about choices made at that time, which are currently causing problems when the model is used in practice today. The model was placed in the context of nursing knowledge and I used the metaparadigm concepts to explore the RLT model. The metaparadigm is a useful framework to understand models, but is too vague to evaluate models in practice.

It is clear from my experience in practice and from the literature discussed in chapter two and here, that the RLT model needs further investigation in practice.

Aims and Research Questions

The general aim of this study, as indicated in chapter one, is to explore the relationship between the RLT model and nursing practice in the orthopaedic environment. The previous chapters have identified that nurses are having difficulty using models in practice. To explore the model in the practice, the following aims are set and some questions are raised.

To explore how the Roper, Logan and Tierney model of nursing is operationalized in care in the orthopaedic environment.

Explore how the nursing staff reflect the model in the care plans.

Explore the patients' perspective of care.

From these, and my experiences in practice, the following questions are raised. Does the RLT model have any influence;

on what staff are doing in care?

on the patient needs of care?

on the way staff are planning and evaluating care?

The next chapter discusses the methodological approach taken in this study to answer these proposed research questions. It discusses the methodological approach that could be used to examine the RLT model in practice.

CHAPTER FOUR

Methodology

Introduction

This chapter presents the methodological issues that are central to the approach selected for this study. Three main issues influence the methodology. The first relates to the difficulties of investigating and measuring nursing, with all its complexities. The second issue concerns the selection of phenomenology i.e. that which appears or is perceived by observation, as an approach for exploring the application of the Roper, Logan and Tierney model (RLT) to nursing practice. The third issue is the role of the practitioner researcher.

Nursing research: selecting the approach

Guba and Lincoln (1994: 108) suggest that there are three questions that need to be asked when selecting a research approach. They identified three related questions, which determine the nature of inquiry, these are:

-Ontological questions. "What is the form and nature of reality and therefore, what is there that can be known about it?" These question are concerned with the nature of reality and the world where we live.

-Epistemological questions. That is the science of the origin and method of knowledge. It asks the question "What is the nature of the relationship between the knower or the would-be knower and what can be known?" These questions are concerned with the nature of knowledge and the relationship between the researcher and the participants in the research.

-Methodological questions. "How can the inquirer (would be knower) go about finding out whatever they believe can be known?" These questions involve identifying the approaches and tactics used to generate knowledge.

These three questions define the approach and set the boundaries of legitimate inquiry for the researcher. As such they are relevant to the design of this study.

The Aims

As stated in chapter 3 the aims of this study are:

-To explore the relationship between the Roper, Logan and Tierney model and nursing practice in the orthopaedic environment

-To investigate the influence of patient needs on nursing practice in the orthopaedic environment.

-To explore how the Roper, Logan and Tierney model of nursing is operationalized in care in the orthopaedic environment.

-To explore how the nursing staff reflect the model in the care plans.

-To explore the patients' perspective of care.

The approach used in this study is qualitative rather than quantitative. The answers to the three related questions set by Guba and Lincoln (1994) quoted earlier lead to a qualitative approach to explore the RLT model in practice. Looking back to the first ontological question: "What is the nature of reality?" In this study, there are many realities, which change and are different depending on the situation and the shared meaning held by the patients and staff. The second question "What is the nature of knowledge; what can be known?" If this question is asked in relation to the investigation of the RLT model, one could not use a quantitative method alone, as the nature of the model would make it difficult to explore quantitatively. Exploring the model by hypothesis testing would be unsuccessful in exploring the needs and perspectives of the patients and staff. This study focuses on the values and beliefs held by the patients and staff involved in the study, and is ideally suited to explore their needs and perspectives of care. Comparing these views with the RLT model examines the relationship between the RLT model and practice in the orthopaedic environment. The relationship between the researcher and those involved in the study is interpretive, where the researcher attempts to understand the model in the terms that patients and staff bring to it. The third question: "What methodology can be used?" That is, what tactics and approaches can be used to generate knowledge? This study seeks to explore issues that are excluded by a quantitative approach, to understand and explain the phenomena of the RLT model in practice through the lived experiences of patients and staff. The aim of this approach is to examine the lived experiences and meanings held by patients and staff in the orthopaedic context, to develop knowledge and understanding for nursing.

The qualitative and quantitative paradigms

Silverman (1993) identified two schools of social science, positivism, the quantitative paradigm and interpretive social science, the qualitative paradigm. Qualitative and quantitative approaches each influence differently how to acquire knowledge about nursing, and in turn the goals, analysis and methods of data collection of the research.

Nolan and Behi (1995b: 113) say that in a quantitative paradigm,
"Reality is external and controlled by universal laws (laws of nature) which apply irrespective of time and place."
A quantitative perspective assumes there is only one true reality that remains constant. These views, of the nature of reality, influence the type of knowledge that can be found and direct the approach and methods used to find them out.

Powers and Knapp (1995: 137) define quantitative research as "concerned with precise measurement, replicability, prediction and control ... using techniques and procedures such as standard tests, random sampling ... tests of statistical significance and causal modelling." They identify four properties of quantitative research:

1. "Adoption of the hypothesized-test-rehypothesize sequence that is characteristic of the scientific method. Where hypothesis is defined as a statement of relationship between identified variables
2. Emphasis upon structured and objective measuring procedures.
3. Extensive use of numbers to reflect the measurements and summarize the results.
4. An emphasis on causality." (Powers and Knapp 1995: 137).

Silverman (2000) identifies five varieties of quantitative research methods, experiments, social surveys, official statistics, structured observation and content analysis arguing that they use the same language as the natural sciences. This has led to criticism that quantitative research ignores the social world by failing to address the meaning brought by social life. Silverman (2000: 5) argues that quantitative researchers are aware of this and "do not aim to produce a science of laws (like physics) but aim simply to produce a set of cumulative generalizations based on the critical sifting of data."

Silverman (1993) also describes qualitative research and outlines four properties of qualitative research:

1. The research should be theoretically driven rather than driven by technical decisions.
2. It should encourage us to examine social phenomenon as procedural affairs i.e. what do people have to be doing, to be doing X?
3. It should attempt to question the common-sense reasoning that constitutes the definition of variables.
4. The methods used examine people in their own territory

Testing theories has historically been quantitative in nature. Quantitative analysis is the manipulation of numbers through statistical procedures for testing the reliability of the relationships between them (Polit and Hungler 1991). This method of research has been closely associated with the sciences such as Biology, Physics and Chemistry. However, within the qualitative and quantitative paradigms two approaches to theory development exist. These influence the research approach, and in turn the goals, analysis and data collection of the research.

Types of theory development: inductive and deductive

Definitions of induction and deduction

Powers and Knapp (1995; 138) addressed the relationship between the two types of theory development within the qualitative and quantitative paradigms by identifying induction with qualitative and deduction with quantitative research.

Strauss and Corbin (1998: 136) defined inductive reasoning as "Statements of relationships ... that evolve from the data going from the specific to the general". In nursing this indicates that an inductive approach identifies issues emerging from the data to include variables that show patterns and commonalities. These are of interest to nursing as they contribute to understanding that body of knowledge.

A deductive approach aims to produce findings that can be generalized to other areas. That is, a deductive approach uses a theory or theories from previous research or experience to establish a relationship between the variables, using the variables, which are contained in the hypothesis, to

support, or not support the statement made. The hypothesis in terms of variables can be constructed and can then be measured or quantified. However, it is the theory that directs the variables and therefore the theory indirectly tested (de Vaus, 1986).

The above definitions of inductive and deductive approaches show how they fundamentally differ. Examining the relationship between theory, hypothesis and variables clarifies the difficulties of dealing with nursing models in this fashion. This will now be examined in detail.

The Relationship between theory, hypothesis and variables

Theories provoke ideas about the unknown, and provide scope for research. However theories themselves cannot be directly tested (Silverman 2000: 78). Theories rather guide the relationship between statements contained in a hypothesis. The hypothesis can then be tested through research by measuring the variables and outcomes of the research to confirm or disconfirm the relationship of those statements made. Therefore a hypothesis is judged by whether it is supported or not and it is this that reflects on the theory to support or refute it. It is the theory that shapes the hypothesis.

The variables contained in the hypothesis in a deductive approach are structured by the hypothesis limiting the researcher to consider only those variables identified. Therefore, any evidence or issues external to these are not considered and are lost. This has wide implications for research and is a major difference between the two approaches. An inductive approach is flexible, and includes issues as they emerge from the data, not limited by the set variables.

Descriptive research aims predominantly at describing phenomena inductively from the data. This phenomenological perspective provides an opportunity to explore the complexity of human experience holistically as it occurs in practice, without preconceived restrictions. Based on this, a picture of events and main concepts are explored identifying the relationships between ideas. A qualitative approach is most appropriate to explore the RLT model in practice. However, qualitative research may be carried out in dozens of ways. The methodology of phenomenology chosen is an articulate way of addressing the research issues in this study.

Phenomenology

It is important to emphasize that phenomenology is only one methodology branch in qualitative research (Powers and Knapp, 1995). Miles and Huberman (1994: 6) give an example of an attempt to present the whole range of qualitative approaches in a literal tree arranged by methods. Morse (1994: 224) also offers a comparison of the major types of qualitative strategies including phenomenology, ethnography (describing race), grounded theory and discourse analysis. Discussions of these qualitative methodologies are increasing and have opened up a forum to explore and resolve methodological issues. Qualitative methodologies do have similarities, but they also differ in their developmental history, assumptions, concepts, understandings, orientations and purpose, all of which influence the methods used and the perspective taken.

An inductive approach in exploring the RLT model uses descriptive research, which aims predominantly at describing the phenomena inductively from the data. This fits well with a phenomenological perspective, providing an opportunity to explore the complexity of human experience holistically as it occurs in practice without preconceived restrictions. Annells (1999: 6) defined phenomenology as "The study of a phenomenon ... it tends to be human experiences-experiential phenomena". "Specifically, the nature and the meaning of the experiences are the focus of their research, describing or rendering into words the people's experiences of the phenomenon and the researcher interprets the words". "The aim of the interpretation is to abstract the experience into themes of commonalities, and possibly of uniqueness also".

Omery (1983) describes phenomenology as inductive, descriptive and its task is to explore and describe the phenomenon including human experience, in the way these occur. That is, a phenomenological perspective is concerned with the lived experience of a phenomenon to search for meaning from accurate descriptions of everyday life, identifying the essence of the phenomena (Rose and Parker 1995). This approach emphasizes the complexity of human experience, and studies that experience holistically as it occurs. The findings of phenomenological research are descriptive in nature and in nursing serve to develop the knowledge base of nursing. Phenomenology therefore is the study of phenomena, using human experience holistically as it is lived. The focus is on the meaning held by the participants and their perception of the phenomena in its own context where it occurs naturally.

In this study, I want to study the lived experiences of patients and staff in practice, to explore the relationship between the RLT model and practice in the orthopaedic environment. Phenomenology fits well with this aim, as it reflects the needs, the opinions and perspectives of the patients and staff in practice.

The history of phenomenology

The breadth and depth of the literature on phenomenology and the subtle methodological connections between the many writings presents a complex framework. Phenomenological philosophy has been developed and transformed over time with each new philosopher working with it. These include Husserl (1962), Heidegger (1962), Marleau-Ponty (1956) and Gadamer (1994). Husserl's phenomenology focuses on understanding the lived experience. Husserl advocated using 'bracketing' as a method to enhance the reliability of the study (Annells, 1999). This means the researcher is to lay aside previous views, influences and preconceptions when they explore phenomena.

Heidegger disagreed with Husserl bracketing of the world, arguing that prior experience and influences are used positively in phenomenology (McKenna 1997: 33). The major distinction between Husserlian and Heideggerian phenomenology is whether the research world and preconceptions can be identified and bracketed. Heidegger's position is that presuppositions cannot be suspended as they contain value, giving understanding of the experience through one's background and previous knowledge (Draucker 1999).

Gadamer, as a student of Heidegger, extends his philosophy, the researcher's prejudices and value-laden stance contributes to the analysis of the data. From Gadamer's phenomenological position a value-laden stance is accepted as unavoidable and is valued in a way that makes the research meaningful to its readers (Koch 1996). Koch (1996: 183) outlines Gadamer's position of hermeneutic phenomenology as, "It is now conceptualized as an approach to the analysis of text stressing that prior understandings and prejudices shape the interpretive process."

Husseler's position of removing years of experience and tacit knowledge presents some dilemmas, for the practitioner researcher. The legitimacy of this methodology is questionable. Describing the

data and attempting to bracket out previous knowledge and values in this position seems impossible. Rather the methodological assumptions of Heidegger-Gadamer acknowledged the importance of people's lived experiences by exploring the participants' worlds and the meanings they find with in them. These methodological assumptions fit with the role of the practitioner researcher and the aims of this study.

Critique of phenomenology

A criticism of hermeneutic phenomenology is this approach does not allow non-subjective explanations. It cannot recognize the development of theory outside of the person and their lived experience (Gortner 1993). Gortner argues that it is no better than logical positivism as it is just as constraining but not in an empirical manner. While this is true, it does tilt the balance of research that has long favoured logical positivism the other way and as such is significant and a valuable methodology.

Hallett (1995) identifies the lack of method and direction given by the adoption of a phenomenological stance as problematic. She identifies structured interpretations of phenomenology including the work of Spiegelberg and Van Kaam as a solution to this lack of structure. However, this impinges on the inductive nature of phenomenology where the description and interpretation of the data directs the approach.

One of the main criticisms of phenomenology is the difficulty in establishing 'rigour' (Koch 1996). As phenomenology is qualitative and naturalistic in style, the quantitative criteria of validity, reliability, and objectivity are problematic to use in order to judge the quality of the study. They are inappropriate as they do not lend themselves to the naturalistic approach and fail to illuminate the important features in a qualitative study. For example, external validity, the notion of generalizing the findings to other areas as applying one truth in any area is inappropriate. This fundamentally clashes with the concept of reality, which changes in an inductive phenomenological approach. As previously mentioned by Guba and Lincoln (1989) and Denzin and Lincoln (1994) work on trustworthiness (credibility, transferability, dependability and authenticity) is more suitable for evaluating this qualitative work.

Guba and Lincoln (1994), Sandelowski (1995), and Koch (1994) all use the idea of a decision trail. That is, the researcher should provide a trail of methodological decisions that led to the interpretation of the results. This is to enable the reader to understand the process used and allows them to evaluate the study. The issue of trustworthiness and rigour in research studies needs to be clearly out lined by the researcher.

Different perspectives of phenomenology

Phenomenology is a complex approach to research. There are many different branches of phenomenology as described, each with different underlying assumptions. These concern reality, interpretation and the relationship between the researcher and participant. The Heideggerian-Gadamer position informs this study as it fits with the position of the researcher involving participation with participants and is context specific.

In this study, phenomenology offers a focus on the participants in the study, in their own context, the living world of the ward. This phenomenological perspective deliberately takes into account the perspectives and knowledge held by this practitioner researcher and values it, in data collection and analysis.

The view of reality is not fixed but variable and changing, fitting with the qualitative perspective of the study. The participation of the practitioner researcher in data collection of interviews and observations fits well with this approach, where undertaking the research in the natural setting and making little attempt to control or manipulate events, was the aim. Phenomenology offers a philosophical perspective to explore in depth the phenomena of nursing models that fits well with the position of the practitioner researcher.

Practitioner research

The traditional role of the researcher

The traditional role of the researcher is well documented. Reed and Procter (1995: 5) defined it as "a strict protocol, followed in order to ensure that the research can be replicated by others, so that it does not matter which individual carries out the data collection or analysis. If a human element

is acknowledged, it is regarded as a possible source of contamination in the research, which must be controlled at all costs".

The majority of research texts hold this view of how research should be carried out and assumes that the researcher is a visitor to the setting, whose sole purpose is to carry out research. The main reason for this is to ensure that the researcher remains pure and unbiased. A researcher who is simultaneously a practicing nurse on the ward in question clearly cannot uphold all of these ideals. The practitioner researcher is already immersed in the culture of the setting; further more the motivation for the work is often generated from problems encountered in practice, biasing the research. However, advantages to this position have emerged.

The role of practitioner research

Practitioner research is described by Reed and Procter (1995; 5) as "people who are part of the world that they are researching in a way that an academic researcher cannot be ... practitioner researchers are part of the culture both before and afterwards. They have a history and a future in that culture: indeed this is their culture ... their commitment to developing knowledge and understanding will be motivated by their position in that culture"

The aim of practitioner research (Reed and Procter, 1995) is to improve practice and increase the practitioner's knowledge base. This contrasts with the traditional approach, which is concerned with identifying the laws of nature and maintaining an objective value free stance. This represents a very different motivation and focus from the traditional view.

The type of knowledge gained

Reed and Proctor (1995) identify that practice is central to data analysis. That is, in practitioner research it is furthering practice that is the ultimate goal of analysis, not purely the development of theory. This is the opposite of traditional research, which uses practice to develop theory. By using a qualitative approach issues found in practice but not included in the model can be noted and become the subject of research. Where practice is different to the model, it is not ignored and identified as bad practice but accepted as a reality of the data collection and the framework is examined in light of this. This depends on the acceptance that the data collected represents practice and that it is a legitimate representation of practice. The differences and complexities

identified should not be smoothed over to fit with the model. The model should be examined in light of these findings and they should be used to explore practice, so that knowledge of practice can inform the model.

There is evidence in the literature to support the development of practitioner research. Tolley (1995) argued that the development of practice theory is in its infancy and the majority of nurses do not feel that they can take on this role, which has been viewed as the property of the theorists. Reed and Procter (1993) have likened developing theory through practice to a plant where the theory, if firmly based in practice, will be robust in the changing health care arena. In a letter to the editor of the journal Nursing Outlook, Koziol-Mclain and Maeve (1994) call for an openness and on going effort to keep challenging theory and stop it from hardening into ideology too soon, before it had been examined and explored. This clearly indicates that practitioner research set in practice is a useful and valid way to explore a model of nursing, because it can be challenged by practice.

Reducing the theory practice gap

The core strength of the practitioner researcher is that they bridge the gap between theory and practice. There is an opportunity to influence practice whilst the study is carried out and afterwards when the results are used. Once the study is over they become part of both environments. Combining an inductive approach using practitioner research in this study shows the differences between the model and the perspectives of patients' and staff's needs. Carrying out research in this environment and in this way arguably reduces the theory practice gap where models explored in practice are challenged by practice in a meaningful way. Exploring models in practice may also encourage the emphasis of ownership to nurses rather than theorists.

Tacit knowledge

Another advantage of using practitioner researchers lies with clinical skills already possessed by practitioners, which can be used in the course of the study. The development of interpersonal skills through daily contact with patients, would enable an interview to be carried out more easily than a researcher who has not had such experience. Although the questions may be different in

research, the skills needed to get the information are the same as in everyday nursing. Practitioners also have knowledge of the research environment and the topic being researched from a practical viewpoint. Every research study begins with a look at the background and reading through the literature of previous studies to familiarize the researcher. The practitioner researcher already has this knowledge. Reed and Procter (1995) reasoned that the important factor is not what the researcher knows, but an attitude to be open to change and to challenge the existing ideas, so that they can be developed and contribute to the knowledge base of nursing.

Issues in practitioner research

Ethical issues

The role of the practitioner researcher is complex, however such a close relationship with the participants in the study can prove to be problematic. These need to be addressed and acknowledged when carrying out practitioner research as the following discusses.

Gaining consent

A nurse, as a researcher interviewing her own patients, presents an ethical issue that is difficult to overcome. The relationship between the nurse and the patient is already established by giving and receiving care. While this seems advantageous, it may weaken the patient's position. A patient who accepts care and advice from a nurse may find it difficult to refuse that nurse access as a researcher. The patient may feel that they are not in a powerful enough position to refuse their own nurse and potentially that if they do refuse their care will suffer.

The practitioner researcher must address this in the manner in which consent is obtained. One consideration is to select patients where the researcher is not the main care giver. The patient may then feel less obliged to take part. Informing the patients of the aim of the research and that they can remove themselves from the study at any point if they wish, may also provide reassurance. The patient must feel confident and happy about taking part. Approaching them first verbally and then giving them information and time to consider taking part may help to limit this imbalance. Including relatives in the decision also strengthens the patient's position. The researcher must ensure that the patient is comfortable in this role and provide ample opportunity at each session to

discontinue taking part. The issue of confidentiality and the approach taken in this study is addressed in chapter five.

Professional Value Judgments

Practitioners doing research bring with them a professional perspective, which is impossible to ignore in qualitative analysis. If they do manage to strip professional valued judgments and influences from the study once the work is published, other practitioners reading the work will interpret it from their professional stance and judge it accordingly. The RLT model used as a framework allows practice and the model to be compared and tensions explored without the researcher's value judgments of 'good' or 'bad' care being the focus of the research (Reed and Procter, 1993). However, increasing professional knowledge and improving practice are what motivates practitioner research and this perspective should not be denied.

The implication of holding professional knowledge in research is that the data analysis and collection are interpreted through this value-laden perspective. This would be undesirable as it is a distraction to the themes and issues raised in these areas and, although interesting, cannot be proved by the data, as it makes a judgment that the standard of care would be better in a similar setting. It is almost impossible for practitioners undertaking research to relinquish their knowledge from analysis and data collection. Indeed if done, it denies the agenda of improving practice that motivates the practitioner in research. The use of a framework as a tool for comparison with practice and the data collected becomes paramount to identify tensions between the two, to avoid value judgments. It is these issues that inform practice. One advantage of using a framework in this way is that it allows the meaning of practice from the nurses, and patients' position to be compared with the framework.

Another implication of holding professional knowledge is the dilemma it can produce when carrying out research. The researcher may be aware that practice is of questionable quality. The practitioner researcher is then placed in the position where they can act, changing the outcome of the research, possibly alienating themselves from the other staff, and compromising their research position, or, do nothing and continue the questionable practice, which compromises the practitioner researcher's professional position. This represents a significant dilemma in

practitioner research, which may be irresolvable without compromising one position. Each occasion must be judged on the significance to the patient's well being and safety and is dependant on the seriousness of the issue to quality care. This can only be judged by the individual practitioner and may be circumvented by the close relationship they have with their colleagues.

Going native

Silverman (1993: 49) described 'going native' as "identifying so much with the participants that, like a child learning to talk, he cannot remember how he found out or how to articulate the principles underlying what he is doing". This has a particular relevancy to practitioner research, where the practitioner is a 'native' and as such is immersed in the setting. While this has advantages as mentioned before, it must be clearly acknowledged as the position taken.

It can be argued that all studies to some extent are contaminated, as most researchers enter the study with some preconceived ideas, for example ideas developed from a literature review (Proctor 1995). Bryman (1988) points out that all researchers approach topics with preconceived ideas about a study, even if it is only the reasons for conducting the study. In this way a value free study is unrealistic, however the relationship between the researcher and the researched in any study must be explicitly stated so that the readers can judge for themselves.

Role splitting: multiple roles occupied

Reed and Procter (1995) suggested that the role of practitioner research is further complicated, because he /she occupies a number of different roles at any one time. The practitioner researcher can be working with colleagues and patients who are research subjects, they may be working under or be a manager of the subjects they are researching. This position presents both advantages and disadvantages. Firstly, the practitioner researcher has a good understanding of the area to be researched that an outsider may not discover until well into the study. This knowledge can be used to inform the study and to obtain relevant material. One disadvantage is that the researcher has a continuous relationship with the research subject and it can be difficult to swap roles. This has implications for data gathering. Conversations during a break, which may be relevant to the study, or information gathered whilst on duty may have to be discounted, for example, the person

making the remark may not wish it to be included in the study. In addressing this problem by asking permission for something to be included in the research study, colleagues may see the researcher as using all interactions as potential data and come to be wary of them.

The Hawthorne effect

Polit and Hungler (1991: 646) define the Hawthorne effect as "The effect on the dependant variable caused by the subject's awareness that they are 'special' participants under study". That is the presence of the practitioner researcher may be influencing the people under study, not intentionally but by their presence and the knowledge that the people know they are under study. This may reflect on their behaviour and in turn influence the study.

The unique position of the practitioner researcher may reduce this effect. Firstly the researcher, as practitioner is already present and recognized by staff and patients. Therefore it is possible that this effect would be less in this circumstance. Secondly casual dress may reduce the view of the practitioner researcher as an official, lessening the response to researcher presence. Participation in conversations with staff and patients may also reduce the researcher effect, where they do not view the practitioner researcher as a researcher. These are speculative suggestions and the Hawthorne effect triggered by the presence of the researcher cannot be eliminated completely.

The role of practitioner researcher is very different from that of the traditional researcher. It offers the opportunity to involve practitioners fundamentally in research, using tacit knowledge in a way not acknowledged by the traditional role. It also grounds the research firmly in practice, where it can be examined holistically in light of practice. This position fits well with phenomenology as a methodology to study models of nursing in practice.

Ensuring quality in research

Duffy (1985) addresses some of the issues in using qualitative methods through reliability, validity and sampling. The criteria used to evaluate quantitative studies are rigour (internal and external validity), reliability and objectivity (Guba and Lincoln 1994). Using quantitative elements to judge qualitative research is inappropriate as the two paradigms are based on different assumptions. This is clearly shown when answering Guba and Lincoln's (1994) three questions on the nature of

paradigms. At each question they differ significantly about assumptions concerning reality; what can be known and importantly for ensuring quality in the research what methodological approach is used.

Hammersley (1993) judged qualitative studies on a different set of assumptions and argued the use of criteria derived from the quantitative paradigm as inappropriate. Leininger (1990) agrees arguing that quantitative criteria for qualitative studies are awkward and confuse the purpose of qualitative research. She describes six criteria of her own, credibility, conformability, meaning in context, recurrent patterning, saturation and transferability. Guba and Lincoln (1989, 1994) also developed criteria for evaluating a qualitative study. These included credibility, transferability, dependability and confirmability.

Criteria for establishing quality

The appropriateness of judging qualitative research by the standards used in quantitative research is questionable (Bailey 1997, Patton 1990) since the two are fundamentally different in their philosophical underpinnings, as described already. Positivism is the philosophical system, which recognizes only observed phenomena and rejects speculation. To evaluate non-positivist research Guba and Lincoln (1994, 1989) proposed the idea of trustworthiness as opposed to validity, reliability and objectivity.

Guba and Lincoln (1994, 1989) presented trustworthiness as four criteria developed to parallel those used in a more positivist deductive position. Guba and Lincoln (1994: 114) "paired credibility with internal validity, transferability with external validity (generalization), dependability with reliability and confirmability with objectivity". They recognize that the close parallel with the positivist's stance to some extent continues to maintain it (Guba and Lincoln 1994). They argue that the trustworthiness criterion relates to the method of enquiry and does not address the outcome or product. It does not challenge the results of a study to prove them right or wrong but focuses on the methodological issues used to develop that knowledge. However, while the criteria for evaluation is unresolved they remain useful and worthy of inclusion here.

Credibility

Guba and Lincoln (1989: 237) define credibility as "Instead of focusing on a presumed real reality, out there, the focus has moved to establishing the match between the constructed realities of respondents and those realities as represented by the evaluator and attributed to the various stakeholders". Uncovering and comparing the many realities held by the individuals and groups, presents and allows the reader to judge the credibility of the findings. Kincheloe and McLaren (1994: 151) define internal validity as "the extent to which a researcher's observations and measurements are a true description of a particular reality". That is internal validity is concerned with ensuring that the findings are plausible to those that constructed them. Guba and Lincoln (1989: 237-241) present several detailed techniques for verifying credibility, one being the researcher checking the results with the participants.

Silverman (1993) recommends integrating qualitative and quantitative aspects through counting, used to describe and clarify results. This is an example of using a quantitative empirical indicator with qualitative research and is an accurate method of describing complex data, as found in qualitative studies. Counting is used in this study as a way of checking the results of analysis for the reader and the researcher to ensure credibility. It clarifies the text examples occurring and avoids the assumption of a hunch that is incorrect and could mislead the reader by emphasizing one text example.

Transferability

Transferability is concerned with the detailed description of the research including time, place, context and culture. Guba and Lincoln (1989: 242) say, "The burden of truth for claimed transferability is on the receiver ... and the inquirer is to provide as complete a data base as humanly possible in order to facilitate transferability judgments on the part of others, who may wish to apply the study to their own situation". Guba and Lincoln (1994) parallel transferability with external validity, Polit and Hungler (1991:644) defined external validity as "The degree to which the results of a study can be generalized to settings or samples other than the ones studied."

In this study, a detailed description of the sample and ward setting is an advantage to the reader, as it accurately describes and allows the reader to judge for him / herself the suitability of the research setting and sample. It allows the reader to compare the sample and setting with his or her own experience in practice and draw informative parallels. In this way, the differences and the similarities in the setting and sample become important, as the research is context specific and therefore it is vital that the reader is informed as far as possible. If the setting and sample are not described in such detail, the reader cannot make these comparisons. As the aim of this research is to improve practice, the reader must be able to compare it to his / her own experiences, so that judgment can be made. I justify the use of quantitative descriptions with the sample as it explicitly details the sample used and will inform any transferability of the study in comparison with other areas. That is, the quantitative description of the sample gives detailed information regarding from where the sample was drawn. This strengthens the reader's position to judge the data.

Dependability and Confirmability

Reliability is pertinent to the deductive approach and is defined as "the consistency that an instrument measures the attribute it is designed to measure" (Polit and Hungler 1991: 653). For a qualitative approach Guba and Lincoln (1989) parallel reliability with dependability, where dependability is concerned with the detail of the documentation process used to develop the findings. Like an audit, the reader must be able to follow the steps taken. Guba and Lincoln (1989: 242) describe it as "reviewers of such an evaluation can explore the process, judge the decisions that were made, understand what salient factors in the context led to the decisions and interpretations made".

The idea of an 'audit trail' in research is linked to confirmability, which is paralleled to objectivity. This is impossible for the researcher using an inductive approach, as they cannot divorce themselves from prior knowledge and values. Instead, Guba and Lincoln (1989, 1994) suggest findings must be rooted in the data itself, where the 'audit trail' can be followed and used to judge the results. Thus, the criteria for judgment of qualitative and quantitative theory development are different but appropriate with in the assumption influencing each approach.

So, dependability is concerned with the stability of the data, where factors like the researcher's boredom or being tired influence it. Confirmability is assuring that the interpretations and outcomes are rooted in the data and not the researcher's imagination. The process of audit is concerned with two issues, tracking the data back, and to what extent the conclusions drawn exist in the data. In this study, counting the occurrence of each code in the data gives an overview of the whole database and the different elements examined. This establishes a traceable and documental process concerning the codes and how they actually occurred in the data. The reader can examine the number of codes occurring and then examine actual examples giving them increased insight into the data and an opportunity to examine confirmability and dependability.

Guba and Lincoln (1994) assert that the suitability of the qualitative approach can be identified by enquiring into,

1. What perspective of reality they assume?
2. What can be known?
3. What relationship does the researcher have with the participants and the approach used to develop knowledge?

The key issue in selecting the methodology for this study is in an inductive approach. It is essential that both qualitative and quantitative approaches are rigorous and systematic (McKenna 1997: 49). However, the choice of methodology must reflect the nature of the subject explored.

Integrating qualitative and quantitative approaches

Mays and Pope (1993) identified induction with qualitative research, however Silverman (2000: 21) said, "inductivism and exploratory work are not synonymous with qualitative research". To argue that one methodology is superior to the other is fruitless, as this is determined by what you are trying to explore. Indeed, it can be useful to combine both approaches as identified by Silverman (1993). Procter (1995) gives an example of mixing deductive and inductive approaches where this approach helped build knowledge without the restricted framework of quantitative theory testing. This involved deriving a framework using a "Delphi survey" technique where one can look at two interpretations to interrogate practice and test out the values contained with in the framework. The framework was inductively derived from the Delphi survey, but used deductively during the observation stage, where it identified the professional agenda. This was then used to structure collection and analysis of the data by, applying the externally derived

framework to the analysis of the nurses' work, simultaneously embracing both a deductive and inductive approach. Although both quantitative and qualitative approaches can be criticized, they each hold advantages for the exploration of certain topics. In nursing, the research methodology selected should reflect the problem addressed whether it is quantitative, qualitative or a mixture of elements from both.

Blending qualitative and quantitative methods can offer some useful advantages in qualitative research (Silverman, 2000, 1993, Polit and Hungler 1991). This merging of aspects relates to Guba and Lincoln (1994) third question in the nature of a paradigm. How can the researcher find out what is to be known? What methodological tactics can be used to gain knowledge for nursing? Qualitative and quantitative research constitutes an alternative way of viewing and interpreting the world. Neither way is right or wrong rather they reflect and reveal different aspects of reality. Health research can benefit from these multiple views and by blending them into one study leads to insights that would be unobtainable by the use of only one (Pope and Mays 1995). There is growing recognition that the rigid view, of quantitative and qualitative approaches has not assisted progress in health research (Abell 1990, Pope and Mays 1993).

In my study I used descriptive statistics to clarify the data and identify how the codes are occurring, using them as a guide to direct closer analysis of certain codes. The integrating of qualitative and quantitative methods can lead to enhanced credibility and transferability. It gives the opportunity to use predominantly one methodology, but elements of the other to explore alternative interpretations or check hunches. For example, Heritage and Sefi (1992) in a study of health visitors and advice giving sequences, successfully used simple tabulation to validate impressions obtained from the data. Qualitative and quantitative approach can be useful in one study, where combined they increase understanding and insight into the credibility of the findings.

Qualitative enquiry involves interpreting non-numerical data to discover underlying dimensions and pattern of relationships (Polit and Hungler 1991). Procter (1995) identified two important issues when using a qualitative inductive methodology, authenticity of the data analysis and its interpretation by the researcher. The central issues occupying the qualitative researcher therefore, are the legitimate representation of the phenomenon in a realistic setting and the interpretation of the data by the researcher.

Conclusion

A qualitative, inductive approach is a suitable way to explore nursing models in practice. The nature of models makes them difficult to test quantitatively. The many different branches of nursing hold different definitions of what the central themes are. A model as a representation of the 'ideal' of nursing, also creates difficulties for a deductive approach and supports the use of an inductive approach in this study.

The RLT model is influenced by the medical model, reflecting physical aspects of care (Aggleton and Chalmers 2000, Minshull 1986). Fraser (1996) argued that RLT model directed its care towards physical aspects, reflecting the activities of living (AL's), which can be linked to the systems of the body. The AL's represent categories, which can be used in a way that recognizes only observed scientific features to count and measure nursing outcomes. For example the twelve AL's can be used as a checklist, which are ticked off. However, exploring the model in such an artificial scientific manner would give no insight into the lived experience of practice. Qualitative exploration however, provides greater insight into the role of the nurse, and how they carry out the tasks that have to be done. It does not claim to provide universal truths and predictability. Qualitative methods therefore are more suitable than natural science methods for studying models of nursing, as it remains context aware and is influenced by social, cultural and historical meaning. This approach concerns the development of understanding the social world studied, and results generated inductively from the data, which requires unstructured and intensive fieldwork.

The Gadamer perspective of phenomenology fits well with the practitioner researcher role in all three respects, perspectives of interpretation, researcher participation and notions of reality, where it acknowledges the practitioner researcher's influence on data collection and analysis. It influences the methodology used in this study to explore the relationship between the RLT model and practice.

As practitioner research, this study is using a phenomenological inductive approach with descriptive statistics. The methodology is a clear way to explore the RLT model due to its nature and the difficulties of investigating models in practice. The next chapter addresses the setting, sample and methods used for data collection.

CHAPTER FIVE

Data Collection, Setting and Sample Selection.

Introduction

The research questions in chapter three, which were developed from the literature and my experience described in chapter one, direct the study to investigate nursing activity and care delivery. The questions address how practice reflects the RLT model.

The questions raised were, does the model influence;

1. What staff are doing in care?
2. Patient's needs?
3. How staff, plan and evaluate care?

I have chosen an inductive approach to explore how the RLT model guides practice, and I have used the following methods, participant observations, patient interviews and care plan analysis to answer these questions.

This chapter presents the study setting, with discussion on the setting for the research, and the difficulties encountered. The techniques of data collection and sample selection are then explored, as well as the sampling methods that benefited an inductive approach (Miles and Huberman 1994). Purposeful sampling was chosen, giving information rich cases that benefit the selected qualitative methods.

Data Collection.

The aim of this study is to explore the RLT model of nursing, how it was reflected and in what ways it was meeting the patients' and staff's needs and perceptions of care. To accomplish this, as mentioned previously, three methods of data collection were chosen. They were participant observation, patient interviews and the study of nursing care plans, each giving an alternative perspective. The focus of the study is on the patient's lived experience.

The following stages represent data collection (chapter six figure 6.1). The first, stage one, involved observations of the care given to twelve patients, stage two, representing analysis, is the development of 'not in model' codes, and stage three involved twelve interviews. Stage four involved the examination of twelve care plans. The interviews and the examination of the care plans took place towards the end of the patients' stay, so that as full a picture as possible was being examined.

The three methods of data collection offer three different perspectives of care in this setting. The participant observations examine the reality of care, and as far as possible a holistic reflection of nursing, and gives an overview of what was occurring. The interviews represent each patient's perspective of care, and the care plans explore a specific version of the staff perspective of care: that is what they recorded in the care plans. Informal conversations with staff suggested that it would be difficult to draw them away from the version of the model advocated by RLT, and their perceptions of how the model should be used. Care plan analysis offered a different perspective, identifying what issues of care the staff recorded. The care plans do not record the actual attitude and perspective of the staff, but offer insight into the issues identified in the care plans. The care plans, as a social construction by staff of the care planned, represent a rich and valuable source of data.

Collecting the data involved three stages, participant observation first, and then patient interviews and lastly the care plan analysis. The rational behind this sequence of data collection was that the observations showed what was going on in general and identified possible areas of interest for the interviews. The care plan analysis was carried out last; representing care that had been interpreted and distilled by the staff and what they were documenting. Collecting the data in this way had implications for the coding process. These are discussed in chapter six.

The Observations.

Naturally occurring behaviour and events taking place on the ward were captured and recorded by using the observation method of collecting data. The depth and variety of the information collected through observations is not achievable by using interviews, questionnaires or care plans analysis alone. Individuals may be unaware, unable to describe or identify their own, or those of the other patients' needs and perceptions of care. The observations represent a reality of the ward

environment from one consistent perspective. The observations are focusing on the needs identified by both patients and by staff, who are meeting these needs.

I selected participant observation (Polit and Hungler 1991) as the method to obtain as full a picture as possible without imposing any preconceived structure on the observation. Taking field notes during the observations ensured accuracy. These were read and corrected afterwards. Details not already recorded at the time, were included.

The role of the researcher as a nurse already working on the ward presented advantages and disadvantages when carrying out the patient observations. As a practitioner researcher I was already a member of the group with a level of trust from patients and staff. I was familiar with the ward routine and lay out. This lessened the degree of intrusion that the observational information gathering caused.

Having selected a patient and obtained permission, a time for the first period of observation to begin was then negotiated with the patient. The equivalent of one working eight hour day was spent with each patient in two-hour blocks. The verbal consent of staff was sought before each two-hour episode. The participant observations took place on the ward that consisted of one five bedded area, two four bedded areas, three two bedded areas and four single rooms. The sample contained at least one patient from each of these areas. During the observation the researcher sat sideways on to the patient. Verbal permission from the patient was gained before taking up this position.

In order to familiarize myself with the actual process of data collection by observation, four two hour sessions were completed prior to the actual data collection. These mock observations were not included in the main study but served to prepare me for the actual observations. I was able to identify best methods of practice and make modifications to the process. The first of these involved the decision not to wear a uniform. Initially I carried out observations wearing my nurse's uniform, but after frequent interruptions from staff and relatives e.g. called to answer the telephone, to give care or answer requests for information. I decided to wear casual clothes. This reduced the interruptions, and increased accuracy and continuity in the observation.

To reduce distractions further I informed staff at the beginning of each shift that data collecting by observation was taking place. This not only reduced interruptions from them, but also allowed me to gain an update on any relevant information or occurrences on the ward that may have influenced care, for example if there had been a death on the ward or it had been a busy noisy night. These changes were developed during the trial observation times.

Carrying out these initial trial observations identified one particular difficulty that was not overcome. This involved the feelings of guilt and awkwardness I experienced as a result of partial participation in care when occupying the researcher role. Whilst carrying out the observations I joined in, answered questions and also contributed to care in small ways e.g. pouring a drink or passing a blanket. I found it difficult to refuse to help when more assistance was requested, especially if a member of staff asked for help to lift a patient. Explanations to staff and patients helped to reduce interruptions but the feeling of guilt persisted during all three data collection methods and most markedly during the observations.

At the beginning of the trial observations I attempted to record the observations using a series of tables, marking events happening to several patients e.g. using the toilet or call bell, and communicating with other patients, relatives or staff. However, reviewing these tables immediately afterwards showed that they failed to reflect the complexity of what was occurring, and it was the written comments that revealed interesting information. Long hand was then used to record the observations. This placed the observations in context and I was able to record the happenings on the ward in more detail. Initially, I also attempted to record several patients at the same time but quickly realized the intricacy involved and decided to focus attention on one patient. This was a lengthy process, but observing only one patient gave a detailed account of care. Reviewing the observation notes after these first attempts revealed that yet more detail could be added, and explanations included after the observation had been completed.

I recorded happenings in the observation periods by writing detailed notes focusing on interactions between the patient and any other persons, including staff, visitors and fellow patients. I was involved to some degree with the research subjects in that if they asked a question, it would be answered but conversational interaction was discouraged. Again, some observational problems were identified. Often there would be so many things occurring at the same time that inevitably some information would be missed, which ultimately would reflect in the results. I

attempted to lessen this by reviewing the observations soon after they were recorded and adding any relevant information. The observations were also interrupted when members of staff asked about professional inquiries or about social activities, which distracted from the observation. This was an unavoidable disadvantage, caused by the familiarity with the ward and its organization. Finally, by being a member of staff on the ward, observational bias may have desensitized the researcher to some of the occurring events.

The very presence of the researcher in the setting may alter the situation and affect the results of the observation. Known as the Hawthorne effect (Polit and Hungler 1991) and discussed in chapter four this not only affects patients, but also staff as well; for example the presence of the researcher can alter behaviour in the observations or influence the information recorded in the care plans. The use of the double-blind experiment limits this in experimental conditions, but it is inappropriate with this study and methodology. Eliminating the Hawthorne effect in this study proved difficult, however the position of the practitioner researcher may have lessened this effect. As an existing member of the ward team the impact of the practitioner researcher (PR) is considerably less than a new researcher with the single role of collecting data.

Denzin (1970) also identifies a problem with observation that merits consideration. The focus of each observation is during a particular timed period. The observer can be unaware of valuable occurrences that could have happened before or after they had left the scene, but had significant effect on what occurred whilst they were observing. I managed to overcome this problem partially by consulting with staff on duty at that time before commencing the observation, checking if it was appropriate and an update on what had happened that day. This sensitized me to some issues that may otherwise have been missed.

Attempts were made to check the credibility of the data by showing the observations to staff. Presenting feedback of the subsequent coding at ward meetings and in the N.D.U. annual report confirmed the credibility of the data collected. These meetings provided an opportunity for staff to comment on the research. Staff noted that the observations represented a narrow perspective that did not show the competing demands made on them by patients or other staff. This was because the observations did not record events occurring outside its frame of reference. Staff agreed that the codes were relevant and could see them being applicable to patients. They acknowledged the credibility of the observations, confirming them as a realistic representation of

occurrences on the ward. The use of observation on the ward was essential to discover commonalties on the basis of general observations, and a description of events emerged from the observations, and key ideas and needs could be identified.

The Interviews

The second stage of the study involved talking with patients in semi-structured interviews. The aim of the interviews was to investigate what the patients thought their needs were, and their expectations of care whilst on the ward. This method of information gathering was strong in its directness and versatility in discovering what the patients thought, their needs to be. It also possessed an advantage over the observations, as in the observation the researcher could record only happenings at that time. During the interviews, the patient could comment on their whole hospital experience. The findings in the observations and interviews did not always correspond. The interviews gave the patient an opportunity to express feelings and personal opinions. Semi-structured interviews give the researcher an opportunity to cover topics that are thought to be important to the aims of the study by guiding the interview. A degree of flexibility was maintained, however enabling the interviewee to raise subjects that were of interest or concern to him / her, while covering all areas planned in the interviews.

The major advantage of using semi-structured interviews is that they are well suited to the explanation of attitudes, values, beliefs and motives (Richardson et al 1965, Smith 1975) and normally received a high response rate (Treece and Treece 1986). This method also provides the opportunity to evaluate the answers by observing non-verbal cues and asking further probing questions, to uncover more information. The face-to-face contact with the patients meant that they became familiar, and therefore more relaxed. This made the information gathering process easier.

Semi-structured interviews, like observations, have weaknesses. How can the researcher ensure credible and accurate results; or be sure that the interviewee is answering questions truthfully and not simply trying to please or deceive the researcher? The researcher must also recognize that the data gathered is not simply a raw account of the patient's views, but is subjected to the patient's limiting factors. We all have a tendency to present ourselves in the best light, and answers may conflict with reality. Patients may give answers that they think will please the interviewer. Some

may attempt to present a self that meets what they perceive to be what the interviewer wants to hear. Recognizing this as a potential problem, further probing questions were included in the interview. These helped the researcher to clarify and interpret the meaning of interesting or relevant issues (Hutchinson and Skodol 1992).

Patients interviewed by their own nurse, now assuming the role of practitioner researcher, presented another possible difficulty. First, it would be difficult for the patients to refuse to cooperate with their own nurse and secondly it may increase the desire to please by giving their perceived correct answers. As previously stated I managed this by using patients that were not directly under my care. Primary nursing made this uncomplicated, as I was only directly responsible for up to eight patients at any one time. The sample selected for the study did not include any of my patients. Although this lessened the interview and patient response bias these issues could not be eliminated completely.

The interviewer's manner could also greatly affect the reliability of the data collected; "The quality of the information obtained during an interview is largely dependant on the interviewer" (Patton 1990). To encourage a good response from interviews I completed several practice sessions with colleagues. This allowed me to become familiar with the routine and gave material for self-evaluation. I was able to establish an understanding of the interview schedule and develop an awareness of potential errors that could arise, one being the patient's misinterpretation of questions.

Discussing the significance of good informants to the research process, Dobbert (1982) describes them as comfortable and unstrained in interactions with the researcher. They are generally open and truthful although they may have certain areas about which they will not speak or where they will cover up: they provide solid answers with good detail, they stay on the topic or related important issues and are thoughtful and willing to reflect on what they say.

Reflecting these ideal characteristics in patients involved in the interviews, proved difficult. Although no patient refused to answer questions some of the answers were evasive. This fact in itself could have significance for the results. A tape recording of the interview was made and an identical transcript of each interview obtained. Using the text in the inductive analysis process gave a detailed account of both the interviewer and the interviewee. This also helped to evaluate

the accuracy and completeness of the data collected. The flexibility of the interviews allowed the patients to express their opinions of what their needs were, and allowed them to comment on the care they had received. This met with the aims of the interviews, namely, exploring the patient's perceptions of care and care planning. As shown semi-structured interviews were well suited to the task of exploring the needs of the patient.

The interview schedule (appendix 4) contained five areas and an introductory comment about the nature and aims of the study. The areas were sequenced so that each question led on from the previous one. The questions were open ended. The five areas were;

1. An initial question about the patient's stay, generally to gain some background information and to help them relax.
2. Questions to identify the patient's understanding and awareness of the roles of different staff.
3. Questions aimed to establish the patient's awareness and knowledge of how the staff had helped them.
4. Questions designed to find out how much the patients knew about their treatment, what the nurses had been doing for them or what was likely to happen.
5. Questions aimed at finding out if any of the patients perceived needs that had not been met.

The content of the interviews' schedule was discussed with the supervisors, once the schedule had been arranged. Then the questions were tried out using two members of staff. These mock interviews ensured that the questions were worded correctly and were easily understood. I was also able to check the 'flow', so that the interview would progress, and factual information could be gathered. From these interviews the need to have alternative wording for each question was identified. In some cases this would help comprehension of the question and ensure the quality of response.

To explore further the mechanics of doing the interview and to gain familiarity with the questions, two interviews with lay-persons were recorded. These actions helped to establish credibility, hone the interviews and build my confidence in carrying them out.

The focus on patient's needs in the interviews and observation is an important one. The RLT model applies the nursing process to attach problems to patient's activities, and then uses them to direct care. Activities were seen as the behavioural manifestations of the patient's basic needs

(Roper, Logan and Tierney 1983c). However, the patient's are largely unaware of the nursing model and to impose this structure on them in the interviews may have limited their thinking. That is, needs not identified by the ALs but involved in all twelve, could be missed if guided by the model. An example is pain. By asking the patients openly about what they thought their needs were, they could bring in anything they thought valid.

The question of interview bias was also considered. As the researcher was a nurse on the ward, the amount of time spent on the ward was considerable and could affect the results. This was difficult to over come and impossible to resolve, though, the use of primary nursing helped to minimize bias by selecting patients not under my direct care, this did not eliminate this factor completely. However, the advantages gained by the practitioner researcher role using insider knowledge in the collection and analysis of the interviews, justifies this position.

Having developed the interviews, consent was sought as before (appendix 4). Twelve patients agreed to participate and a suitable time was negotiated. Of the twelve patients only two could not be moved into a quiet room. An effort was made to ensure that privacy was maintained during the interviews. Screens were drawn and the interviews were carried out in quiet times. All twelve interviews were tape recorded and lasted between twenty and thirty minutes. The tapes were then transcribed.

The Care Plans.

The care plans were chosen as an alternative to interviewing nurses. As all the staff were aware of the research and its subject, I reasoned that any interviews with the staff would reveal the RLT version of the model and not show how it was actually operationalized in practice. Using the care plans as social constructs of the nurses gave insight into the model in care that would be difficult to achieve from interviews.

Glaser (1963) defined the term secondary data as using data collected for another reason. Care plans in this study counted as secondary data, as they are collected for reasons other than carrying out research. As such, the researcher had no control over the content of the care plans. Secondary data can range from official statistics with large numbers and a rigid structure, to personal diary accounts that deal with the individual and have little or no structure. Nursing care plans come

some way in the middle. They possess a degree of structure but allow interpretation through the individual writer, normally involving more than one person but not a large number. Reed (1992) discusses analytical issues to the use of secondary data (care plans) with reference to nurses assessing their patients, and found that social meaning of the care plans led to increased insight and understanding of the social world in which they are created.

Care plans form an integral part of this study because nursing models help the nurse "identify the goals of patient care"(Meleis 1985: 31), which are reflected and recorded in the nursing notes. As secondary data, the care plans were not amassed with the research purpose in mind. The records are not a true reflection of what actually happened on the ward. Comparison of the observations on the ward with the care plans prescribed would be different and possibly discredit the care plans as not a true representation.

However, Scott (1990) states that documents should be treated as topics in their own right. This means that the researcher regards the care plans as social products and should be concerned with explaining the documents. Care plans can be treated as documents for sociological analysis and need not be examined for authenticity or regarded as facts, but treated as social creations of the staff. They are influenced by what the writer perceived to be important and as such social constructs they give valuable insight into the underlying value and philosophies of care. Therefore, it is possible to elicit a perspective of the model from the care plans.

Choosing care plan analysis as a data collection method has a number of advantages. The data is already collected and covers the patient's whole stay. The care plans represent a concentration of issues in care, offering a rich source of information eliciting a version of the staff perspective of patient's needs. They also give insight into the issues involved in care by examining what staff choose to record.

As already discussed the care plans, were not created for the purpose of this study, and represent secondary data. Reed (1992) describes the term secondary data, as data originally collected for other purposes. In this study the nurses created the care plans to record and guide nursing, not as a subject of research. Hale et al (1997) identifies a complexity of using care plans in research arguing that care plans do not represent the actual care given. This raises methodological difficulties, accepting the care plans at face value without consideration, weakens the research.

Reed (1992) discusses the nature of care plans arguing that it is more productive to treat them as topics in their own right as social products produced by the nurses. Care plans therefore, are not sources of information to be checked for authenticity and considered as fact, but represent the nurses' social construction of their world, containing their emphasis on themes and issues in care. Viewing the care plans in this manner negates the argument that they do not represent reality. This becomes irrelevant as the care plans represent a topic in their own right, where the care plans are considered as social constructions and a product of the nurses.

It can also be argued that analysis of the care plans will simply reveal the structure they are based on. However, considering the care plans as social constructs indicates they are not free from bias or interpretation and the nurses influence the content whatever framework is used. The care plans are based on the RLT model and they reflect the interpretation of the model influenced by the nurses creating the care plan. The care plans therefore are displaying a perspective of nursing care influenced by the nurse.

The care plans as a source of information offer a record of a patient stay. They represent what the staff thought was important to record about care, that is what was recorded was influenced by the staff emphasis on care and represented a particular perspective of care. The original function of care plans was to record and communicate the care given to the patient and any plans for future care until discharge. Nursing staff are responsible for constructing care plans, other members of the ward team for example occupational therapists, physiotherapists and social workers, contribute to them although less frequently. All members of staff have access to care plans and patients and relatives are invited to read them too.

The Hawthorn effect also has implications for care plan analysis. Staff may alter what they record during the time of data collection. The limiting factor in this study was that staff were unaware which care plans were to be analyzed and were therefore unable to change specifically the care plans selected. However, this does not negate the Hawthorne effect, as staff may make an extra effort with all the care plans during data collection.

The data available in the care plans remained uncontaminated by the researcher but was heavily influenced by what the original authors perceived to be important. As such, they gave insight into

the underlying values and philosophies of care. Much insight could be gained from what was recorded, what was taken for granted and what was omitted.

The final stage of data collection was to analyze twelve patients' nursing care plans. These were stored at the end of each bed and updated at every shift. Verbal permission was obtained from staff to use the care plans in the study. Since the patients took no active part at this stage of the study an information sheet was given and explained, but only verbal consent was obtained. The nursing notes were then photocopied and all identifying marks removed to safeguard the anonymity of patients and staff. Six of the care plans were long stay (patients staying seven days or over) and six short stay care plans (six days or less). By selecting long and short stay patients it was hoped to reflect the possible diversity of differing trajectories of patients receiving care on the ward that may have been missed had the sample not been biased in this way. By choosing long and short stay patients it was envisaged that the data gathered would be richer and more fruitful in its results. The care plans identified the nurses views of the needs of the patient, what their needs were and how the nurses used the model to structure care within the care plans. All twelve care plans were then transferred to computer for analysis.

The care plans consisted of a front sheet with general information on it, for example patient's name, address, telephone numbers, next of kin, followed by a boxed two page assessment using the twelve ALs as a structure, which noted how the patient was at the point of admission. This was then followed by unstructured evaluation sheets to document care given. A key of identified issues was situated at the back of the care plan. The key consisted of an A4 piece of paper listing the potential and actual problems identified by the nurse. This could be adapted during the patient's stay by adding new problems as they occurred or removing those that were no longer applicable. Following this a detailed description of the care to be given for each problem, was recorded. The nurse who was principally looking after the patient designed this. The purpose of the care plan was to communicate between staff. It was a record of the care to be given and also showed at what stage each patient was and how they were progressing. Care plans were used on a daily basis to report to nursing staff at each shift change, where, the current status of the patient and plans for future care, were discussed.

The Setting

This study took place on an acute orthopaedic ward, which was using the Roper, Logan and Tierney model (RLT) of nursing. The setting was where I worked and the study emerged from the experience and concerns of staff, as discussed in chapter one. There were a number of advantages to this setting, notably familiarity and insider knowledge of the setting, motivation to improve practice and a reduction in time and expense which would have been incurred by moving to another site. Patients were both long and short stay, staying greater than seven days or less than six. There was a wide age span, from young adults to the elderly. These variations provided a rich area to examine the use of the RLT model in practice, whilst also reflecting everyday health care issues.

The ward

The ward had twenty-three beds and was set within a large general hospital. The existing ward model, Roper, Logan and Tierney's activities of living (1996) was used in conjunction with the nursing process (Yura and Walsh 1967).

Primary Nursing

An established system of primary nursing (Manthey 1980) was used to deliver care to the patients. Primary nursing means that patients are assigned a nurse, who then cares for them throughout their hospital stay. When the primary nurse is off duty, care is delegated to an associate nurse. Each primary nurse has a caseload of patients and is accountable for their care, for the duration of their stay in hospital (Hegyvary and Haussman 1976). This system is designed to enable one primary nurse and his / her associate nurses to deliver care to a group of patients. It offers continuity of care.

Primary nursing was advantageous to this research because it avoided a complex ethical issue, patients being interviewed by their own nurse. Any patient, who was under the author's direct care, was excluded from the research sample. The patients included in the research had minimal contact with the researcher. The researcher was expected only to be responsible for planning or giving care in emergencies.

Nursing Development Unit

The ward was also part of a Nursing Development Unit (NDU) accredited by the King's Fund in London. It was able to offer partial funding for the research, and time for the study was negotiated with the sister of the ward. As part of the NDU staff nurses and auxiliaries were willing participants in the study and were kept informed by distribution of information sheets that described the aims and activities of the study. As I was working full time on the same ward, it was easy for staff to ask any questions about the study.

Practitioner research: going native

Silverman (1993) identifies the difficulty of "going native" in the traditional role of research as previously discussed (chapter 4). This is significant for the practitioner researcher (PR). I was already 'native' and by this definition, "going native" would not have been avoided by choosing a different ward setting.

Two issues arise from this position: the first involves myself as the researcher. As an established member of the ward team for several years, I was familiar with the other members of staff, the ward routine and documentation. This position gave me distinct advantages when carrying out research. I was able to use practitioner knowledge. The second issue concerns that of being a nurse. This role cannot be eliminated or separated from the act of research in practitioner research. To do so would be to deny years of experience and the motivation for the study. Another ward was considered as a setting, however it was felt that more would be lost than gained, as I would remain to some extent an insider, but would lose the advantages and insight that familiarity of the ward setting undoubtedly gave.

Silverman (1993) identified another difficulty that the researcher must be aware of. Researchers who identify too much with the roles they are studying can be blinded to possible findings and have difficulty separating themselves from that role. Researchers continually influence the information being collected as they assimilate it. It is difficult for the lone researcher to achieve complete objectivity, as his / her personal attitudes and values unknowingly distort the data. Similarly, researchers are able to select what is recorded, so events can be sampled unwittingly, with considerable bias that is difficult to evaluate (Polit and Hungler 1991). The complex position of the practitioner researcher is impossible to remove; indeed, if declared, it holds advantages.

Remaining on my ward as a research practitioner gave excellent access to patients. Selection and observation was easy, and the movement of patients could also be monitored with ease, so that losses from the study were reduced. As an existing member of staff working full time, travelling to and from the research area was incorporated into the working week. This saved valuable time, which was then available for research. The relative ease of accessing the area and support from staff may not have occurred if I had not been an accepted member of the ward, who was perceived as approachable. This manifested itself in the frequent questions and explanations sought by staff. I concluded the influence of the PR position couldn't be removed from the study. In my view doing this compromises the integrity of the study and limits its development.

Ethical Issues

Approval

Official ethical approval for the study was obtained from the Bede, Newcastle and Northumbria Nursing Research Committee and the Newcastle Joint Ethics Committee. The Chief Orthopaedic Consultant was given a copy of the research proposal and gave his consent. This ensured that he was fully aware that the research was being carried out (Appendix 1). A copy of the research proposal was also given to the senior nurse manager of the ward and to the ward sister. Both gave their support and helped to disseminate information about the study to staff and patients. Nursing staff were given information sheets and verbal explanations of what would be taking place on the ward. Being part of the ward team helped greatly, as questions could be asked and answered at any time. To increase the awareness of the study, information sheets should have been given to all members of staff, e.g. physiotherapists, domestics, occupational therapist, social worker, clergy and doctors, as many questions about the study originated from them.

Anonymity and consent from patients

Several steps were taken to protect the patients and staff. All persons involved were informed that any information gathered would remain confidential, and in the final thesis anonymity would be preserved. Anonymity could not be guaranteed whilst collecting data, as it was obvious who was taking part in the study, from the observations and interviews on the ward. Patients were also

reassured that they could withdraw from the study at any time and that taking part in the study would in no way alter the care they received.

Permission was negotiated to ensure that each patient gave an informed consent; Potential participants were approached and given an information sheet that explained the study. These could be kept for the patient's own reference. The information sheet informed the patient about the research, who would be overseeing the project and where the researcher was based. The purpose of the study, and which part of the study they would be involved in, was described to them verbally. It was explained that they would be in the group of twelve either for observation, or interview or care plan analysis. They were then given at least twenty-four hours to consider this information, before being approached to make a decision about taking part. This time delay allowed the patients time to think about whether they would like to take part. They had time to formulate any questions that they had and an opportunity to discuss their participation with a relative or friend. All patients who agreed to take part were asked to sign the consent form, which was explained by the researcher before signing took place. At this point they were reminded once more that all information gathered would be anonymous in the final thesis and that they would have the right to withdraw from the study at any time. The consent forms can be found in appendices 1, 2 and 3.

A complication of practitioner research is that it can place the patients in an onerous position, where they feel unable to refuse to participate in a study run by their nurse. This dilemma was addressed by using patients who were not directly under my care. Primary nursing made this easier as I was directly responsible only for up to eight patients at any one time. The sample selected for the study did not include any of my patients.

Markers were placed in each consenting patient's medical notes. This contained the title of the study and who was overseeing it, the researcher's name and where the study was based. This information ensured that current and future staff were aware of the research being carried out and they could seek further clarification if required. Each day, and at each encounter, I requested verbal consent from the senior member of staff on duty, so that at all times staff members were aware of the on going research. All patients were given the opportunity to ask questions about the study at any time and a good response was achieved. A purposeful sample of thirty-six patients was selected from the ward. The criteria for inclusion in the study was that the patient was

eighteen or over, admitted to the orthopaedic ward for orthopaedic care, willing to participate, and able to give an informed consent.

Excluded Patients

Occasionally patients were admitted to the ward because of bed shortages in other specialties. These 'boarders' were excluded from the study as their time on the ward was unpredictable and they were often moved back to their original specialty when a bed became available. Similarly orthopaedic 'boarders' on other wards were not included.

Often "confused" patients were admitted. They may have had an existing disease, e.g. dementia. Others became confused post operatively from the effects of the anesthetic or simply by the removal of their own familiar environment. Although this is an important area of nursing care and could often consume a large proportion of time and attention from staff, it was judged to be beyond the scope of this study and therefore confused patients were not included in the sample. To ensure that patients were not 'confused' medical notes were checked for diagnosis of Alzheimer's or a similar disease that would indicate a confused state. The mental state of the patient noted by the doctor on admission was also checked, along with the nursing assessment of mental state. Finally before any contact between the patient and researcher took place permission was sought daily from staff on duty. They were asked how the patient was. This had some influence on the sample selected.

The Selection of Patients

Earlier Kirk and Miller (1986) contended that not only are extracts from field notes essential for the reader but also details on how and in what context they are recorded. Outlining the type of patient typically nursed on the ward, and giving detailed information, makes the reader conversant with the people and the setting, and places him / her in a position to make comparisons and draw conclusions conducive to their own setting. The reader is then able to assess the results and become aware of possible applications (Reed and Biott 1995).

The detailed description of the setting supports this 'transferability' (Guba and Lincoln 1994). It is concerned with the comprehensive description of the research and contains elements of time,

place, context and culture. Selecting a sample concerned with usefulness rather than generalization, the reader has a detailed understanding of the setting, making it possible to compare and contrast it with their own, and allowing the reader to determine how it could be used.

Population; A Year's Intake of Patients in the year prior to the study

A summary of the population of patients admitted to the ward in the year prior to the study can be seen in figure 5.1. These graphs were created from the ward admissions' book for one year. Two hundred and thirty eight patients were admitted. One hundred and forty were male, and ninety-eight female. This also included a number of boarders. The age range of one year can be seen in figure 5.1 a, with peaks in three age ranges, 18-29, 70-79 and 80-89.

Figure 5.1 b represents length of stay. It shows clearly that the greatest number of patients stay for six days or less. The number of patients decrease as the length of stay becomes longer. The smallest numbers of patients stay for an extended period of time, between 35-41 days. Only one patient stayed between 42-48 days.

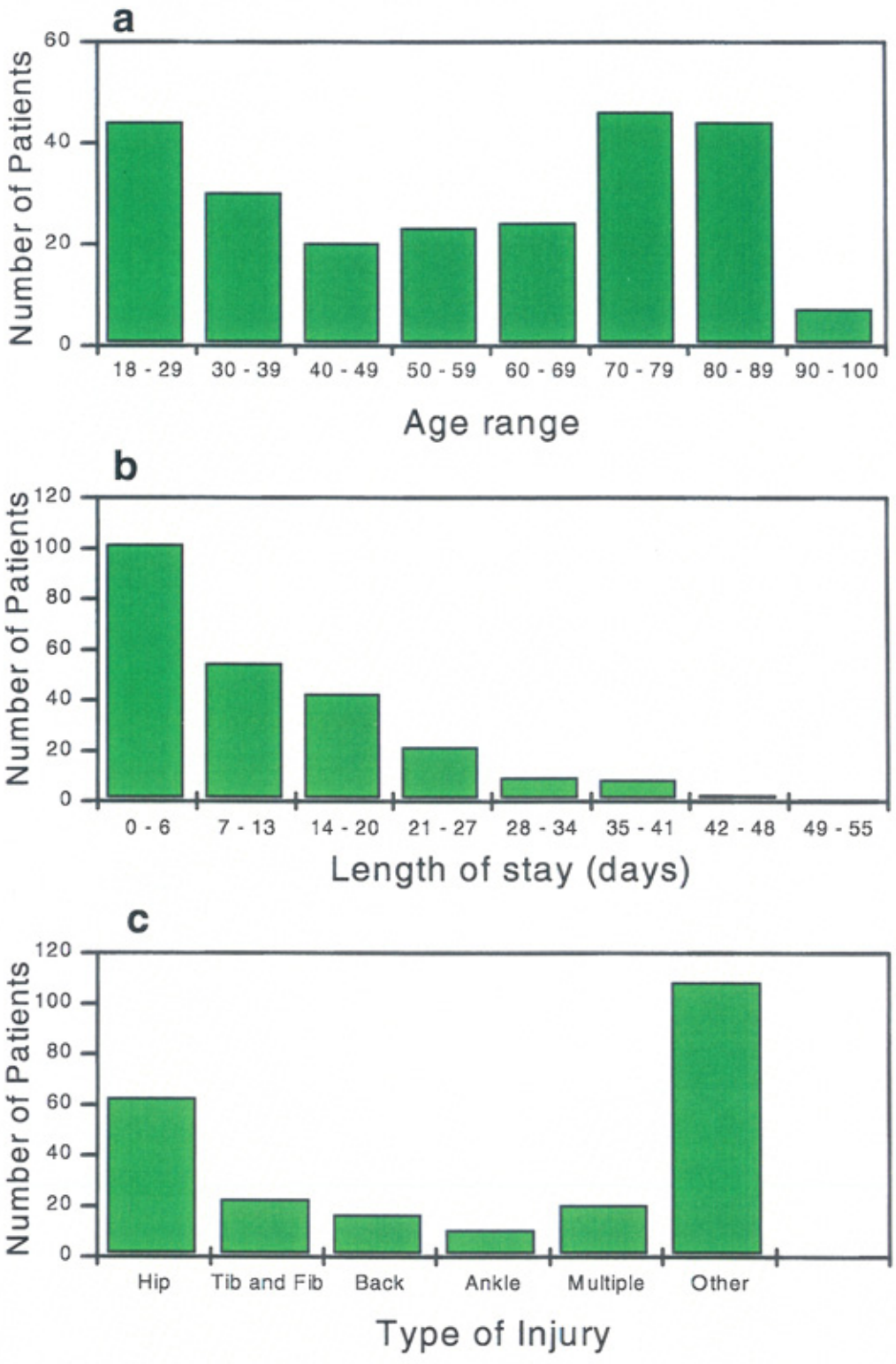
The third bar graph figure 5.1 c shows the type of injury or condition patients had when they were admitted to the ward. This was split into six convenient groups. The first of which was 'hip'. This represented all people with fractured neck of femurs; also painful hips or prosthesis already in place that had a fracture around it. The second group 'tib and fib' contained any people with fractures of the tibia or fibula, below the knee and above the ankle. The third group 'back' contained people with injuries ranging from back pain to single fractures of the spine, including microdiscectomy and 'slipped discs'. The 'ankle' category contained people with injuries to the ankle treated conservatively with plaster of Paris, or more complex fractures with internal fixation. The 'multiple' group referred to patients with one or more fractures and also in this group, people with fractured shaft of femurs were included. The last group 'other' was composed of all that was not mentioned in the first five groups. It covered a wide range of things, for example, people with fractures to the arm and wrist, arthroscopies, biopsies, head injuries, removal of metal ware, ruptured tendons or muscles and any "boarders" that were admitted. The

rational behind these groups was diagnosis driven, where similar presentations were linked together to give a clear view of the types of admissions.

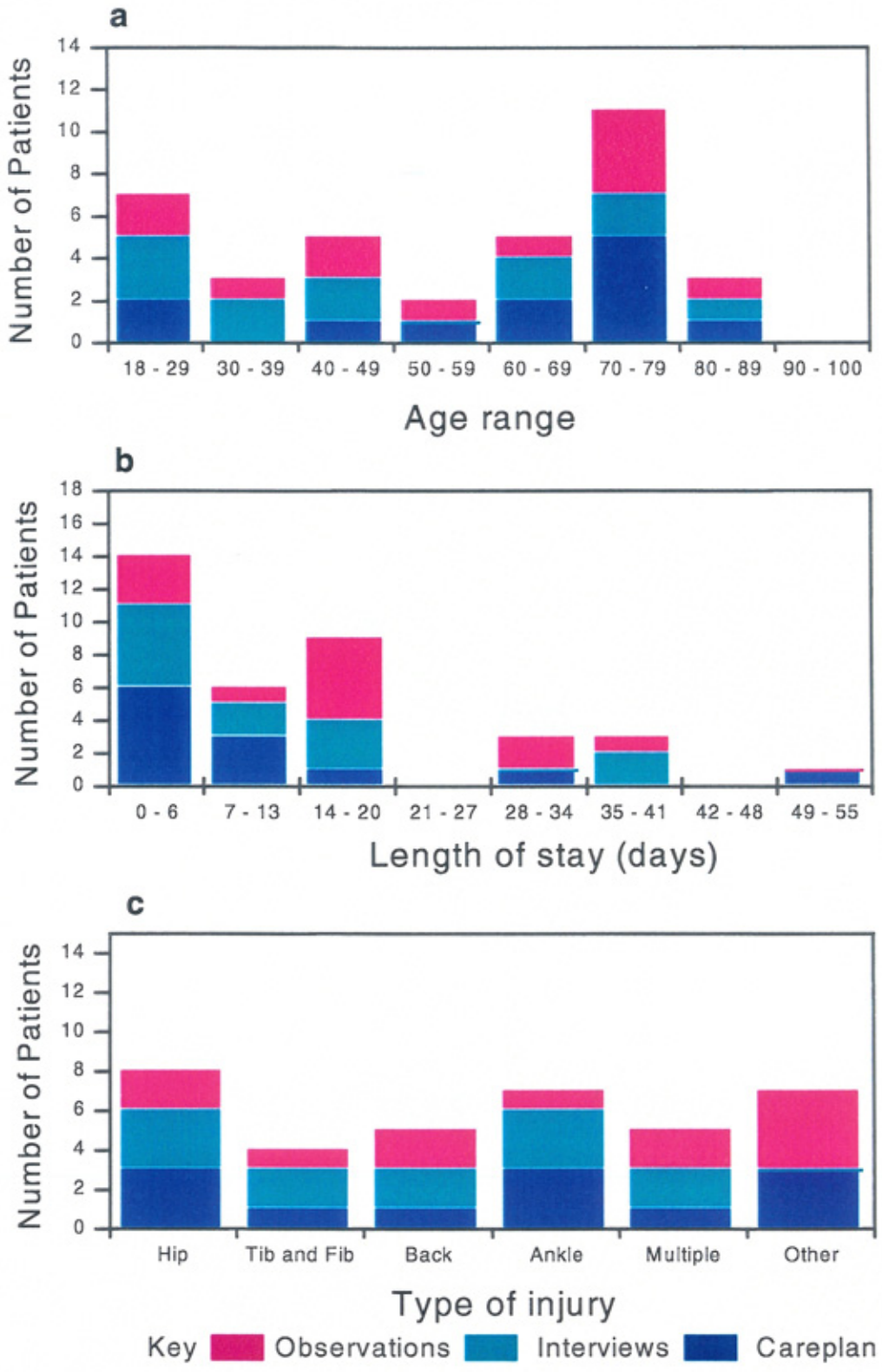
Patient trajectories

When entering hospital each patient has his / her own individual trajectory (Fagerhaugh and Strauss 1977). A patient may have already embarked upon an illness career or trajectory and hold knowledge, beliefs and expectations about health care. Trajectories could range from simple to complex.

Simple trajectories could be characterized as short stay, predictable and involving few risks. Patients with a broken wrist, or patients waiting to have an arthroscopy, come into this category. Patients with simple trajectories are usually discharged after a short stay and rarely need to be re-admitted. Complex trajectories, such as people suffering from multiple trauma or a complicated spinal fracture, whilst also having diabetes are 'problematic' to medical and nursing care. Their stay is usually an extended one.



Figures 5.1, a, b, c Bar graphs to show the distribution of the patients admitted in terms of age range, length of stay and type of injury.



Figures 5.2, a, b, c. These bar graphs show the sample of patients. The key shows how each data type was distributed in the study.

The wide age range of patients and the nature of their injuries, mean that patients can remain on the ward for a short or an extended period of time. Sometimes they require extensive rehabilitation, and planning for discharge involves many members of the multidisciplinary care team.

Each trajectory is shaped by influential personal factors, for example a patient's previous experience, and the type and purpose of surgery, also other existing health problems may affect patient recovery and the kind of nursing care required. The patients' lifestyle, social situation, family relationships and occupation influence their needs (Fagerhaugh and Strauss 1977). The RLT model of care follows a unified approach to care, which had been described as too vague to assist the development of nursing practice, when there are so many varied patient trajectories.

The Sample Used: how patients were selected

The patients included in the sample were invited to participate at different stages along their individual trajectories of stay. Each patient had been in hospital for at least 48 hours before being approached. The twelve patients involved in the observations were approached towards the beginning of their stay to allow time for the observations to be carried out.

The twelve interviews were carried out towards the end of the patient's stay, when discharge or transfer was being organized. This ensured that interview patients had sufficient time in hospital and had time to form their own opinions.

The twelve care plans were also examined towards the end of the patient's trajectory when discharge was being planned, so that as full a picture as possible was being examined. Thirty- six patients were used in total, twelve for each method.

The process of sampling for each data source was collected in the following manner. The observations were carried out and completed first, followed by the interviews and finally the care plans. The twelve patients in each data group (observations, interviews and care plans) were identified sequentially, that is, in the observations a patient was selected, consent gained and followed by data collection. Once the data had been collected and completed for the first patient, the next patient was selected in the observation group, until all twelve patients were achieved for

the sample. During the selection and data collection the sample was reviewed to allow for purposive sampling (Polit and Hungler 1991). Thus consideration was given to factors influencing the sample, for example, length of stay and diagnosis. Sample selection in the interviews and care plan analysis was carried out using the same method.

The sample selection for qualitative studies influences the results. When small groups are selected they can give a greater depth and richness than the statistically driven. The researcher can deliberately choose "interesting" patients to give an information rich sample, set in a natural context. A weakness of this is the suspicion that the researcher has influenced the sample, in turn affecting the results (Carr 1994). Reed and Biott (1995) suggest that it is unproductive to think about sample bias and generalization and that it is more appropriate for practitioner researchers to think of purposive sampling and usefulness. Purposive sampling (Polit and Hungler 1991) involves selecting participants because they represent productive and interesting examples that may help develop practice, rather than be statistically correct. The choice of informants is driven by a conceptual question not by a concern for representativeness.

In the sample chosen for this study all groups identified in the year intake can be seen. Eighteen patients were male and eighteen patients were female. Purposeful sampling (Polit and Hungler 1991) was used to select patients, saving time, and effort and ensuring the selection of interesting cases as discussed above. When selecting the sample in the study, I chose patients who were "information rich," representing the multitude of different patients that were admitted to the ward. If this had been left to random selection, with such a small number, a narrow sample would have resulted, possibly including a large proportion of elderly ladies with fractured neck of femur.

The sample seen in figure 5.2 a, has ages that range between eighteen and eighty-nine, a representation of both the young and the elderly. There were more long stay patients in the observational sample of the study owing to the difficulty of securing very short stay patients (three or four days) for eight hours of observation, before they were discharged and lost from the study. Another important factor to mention about the short stay patient is that three of them were transferred on to another ward, for continuing care. Once removed from the initial ward the patients were not followed up on to the transferred ward and data collection stopped. Similarly three of the long stay patients were also transferred to rehabilitation wards before ultimate discharge, and no further information was collected for them. Thus six patients from the sample

were transferred onto other wards and not discharged home. This did not devalue the information gathered from these six patients as they were still nursed and cared for using the model on the ward, and held views and perceptions about their needs.

Of the patients asked to take part in the study only two were unwilling; one in the observation stage where he felt uncomfortable about being watched for eight hours and the second at the interview stage where the patient did not "feel up to it". Using twelve patients for each method (Interviews, observations and care plan analysis) was similar to a previous study by Waterworth and Luker (1990), who also used an inductive approach, description and was non-interventionist. They explored to what extent patients wanted to be involved in decisions about their care. In my study, the selection of twelve patients in each group allowed the detailed collection of data, some seventy thousand words of observation, twenty six thousand words for the interviews and fifteen thousand words in the care plans.

Thirty-six patients were selected for the sample. This proved to elicit more data for analysis than anticipated (see chapter 10). The thirty-six patients for the study were obtained over a six-month period, with twelve patients in each group. The number was partly dictated by the time available and the predicted data that would be collected. This sample size was thought also to be appropriate for resources available.

As Miles and Huberman (1994: 27) reported: "Qualitative researchers usually work with small samples of people nested in their context and studied in depth, unlike quantitative researchers who aim for larger numbers of context stripped cases and seek statistical significance."
This is a study of qualitative research. The time limit of the study also constrained the size of the sample.

One critical issue concerning the sample is that it consisted of thirty-six different patients, divided into three sets. Twelve patients were to participate in an interview, twelve were to be observed, and twelve patients had their care plans studied. Sampling three different groups of patients for each data source has implications for the study, which were not at first not appreciated. If the same twelve patients had been used across the three methods, it may have been possible to use a case study approach, giving a comprehensive assessment of the patient's care and allowing the comparison of data on an individual basis. This would have highlighted the differences between

the needs of patients, staff and the RLT model. The case analysis revealed interesting and individual perspectives of care that inform nursing practice showing specifically how these needs fit with the model. The constraining factor with this case study approach was the difficulty of completing all three methods before the patient was discharged.

Conclusion.

Since there were advantages in terms of resources, familiarity with the ward and practitioner knowledge, the researchers own ward was used in the study. The optimum tools for data collection were concluded to be observations, interviews and care plans analysis.

The sampling process is described in detail presenting the reasons for choices and the choices made. It identifies purposive sampling as appropriate for the methodological approach. The question of transferability is also raised as an issue in sample selection.

Considerations of ethical components of the research process are addressed including issues arising from the unique role of the research practitioner. To comply with the ethical recommendation patient consent was obtained from patients that were deemed not to be confused. Confidentiality was maintained during the study and anonymity assured in the production of the final thesis.

This chapter has explored methods of data collection and determined measures to ensure credibility and transferability. Twelve examples of each were collected and collated onto computer for inductive analysis as described in the next chapter.

CHAPTER SIX

Data Management and Analysis.

Introduction.

This chapter explores the purpose of qualitative data analysis, with reference to the use of coding and classification of the collected data. Using the twelve activities of living (ALs) as a framework for analysis, I describe each stage of the analysis in detail, leading to the use of "quantizing", with qualitative data as a method of analysis (Silverman 1993). The subject of 'meaning' is debated, with reference to each code, how they were identified, and what the codes represent. Lastly, the coding process is critically evaluated.

Analysis

Qualitative research rests heavily on analysis and how it is carried out, rather than the choice of sample or the interview schedule (Mitchell 1983). Fawcett (1995) developed a framework for the analysis and evaluation of nursing models and defined a clear difference between analysis and evaluation. She described analysis as a detailed examination of the model, its content, history and basic philosophical beliefs, and evaluation as an internal judgement of the model.

Nichol (1985: 3) agreed with Fawcett (1995) and argued against the use of external frameworks to judge models;

"Subjecting a model to external comparison implies a process of matching it with an external criteria. Considering the definitions, purposes, analysis and evaluation of models, it is apparent that the importance of models lies in their context, not in external comparisons."

With this in mind in this study, the initial analysis of the data was carried out by applying the core of the Roper, Logan and Tierney model (RLT), the twelve ALs, to code the data and look at its suitability, i.e. using the model itself as the initial analysis framework.

However, once initial analysis was completed using the twelve ALs it became obvious from the large quantity of data left un-coded that other issues were evident. I developed an alternative inductive framework of patient and staff defined needs to scrutinize this data.

The justification for using only the twelve core ALs as a framework is that the other four elements, life span, independence continuum, individuality in living (nursing process), and the factors influencing the ALs are all interpreted in relation to the ALs. They became apparent in care through an AL. These four factors are interdependent of the ALs. The authors recognize that these issues are operationalized through each of the ALs, and should therefore manifest themselves through the ALs.

The Use of Computer Programs

Once collected, the data were transferred on to computer for coding and analysis. In the last ten years the use of computers in qualitative research has expanded, with several programs now available (Miles and Huberman 1994). Tesch (1989) discussed the advantages of using computers in qualitative research, including methods to ensure trustworthiness, advantages for organization of raw data and integration and checking of findings.

N. U. D. I. S. T.

In this study, I used the Non-numerical Unstructured Data Indexing Searching and Theorizing (N.U.D.I.S.T.) program to organize the data. N.U.D.I.S.T. is a data base program, which stores segments of data assigned to a node, linking each node to another in a tree type structured index system. Once a segment of data is assigned to a node, the structure can be searched for overlap between data indexed under different categories. Previous studies show it is useful for identifying relationships between existing categories and creating new categories (Tesch 1991, Moule 1999).

The Nudist program possessed a number of functions, which fitted the nature of the study. First, it offers flexibility, allowing inductive searches. As the purpose of the study was to inductively explore the Roper, Logan and Tierney model, this program proved a useful tool for coding the data. Second, the branching tree structure diagrams created in the program helped build

relationships between the concepts which came out of the data, enabling the exploration of the existing ward model and the perceptions and needs of the patients and staff.

Another advantage is that it is flexible in its coding. Any size or chunk of data can be coded allowing easy on screen coding. This program also allows multi-layered coding, building up and developing codes whilst providing source tags to trace the source of data. This program displays the work in diagram form giving a picture of the complete coding process to navigate around the data.

Memoing is also possible in N.U.D.I.S.T. Memoing (Miles and Huberman 1994) is recording reflections on the analysis and coding process to tie together different sections of data. They record ideas that the researcher has about the analysis that can be a sentence, paragraph or a page long. They represent a mental note helping to clarify ideas and develop themes for the researcher.

N.U.D.I.S.T. is excellent for searching, and retrieving codes and the attached text, allowing a range of different searches to be performed e.g. string or macro searches. The results of these searches are highlighted and most importantly all sources can be traced back to the original interview, observation or care plan. This program also makes a log of all completed searches and retrievals as you go along, so that a check and cross check can be made. Other features were useful, e.g. displaying the data in windows allows viewing of several searches at once, automatically displaying the frequency of the finds and the ability to customize searches by writing "macros". The combination of these features influenced the choice of program.

Coding the Data: an overview.

Applying the core framework of the model, the twelve ALs, to the collected observational data (stage one fig 6.1) involved labelling sections of text, called text units, using the N.U.D.I.S.T. computer program. Text units were sections of text ending in a carriage return. That is, they divide each individual's conversation and actions into naturally occurring 'parcels', as defined by the researcher. A text unit could range from a few words to several sentences long. I considered each text unit, coded it with an appropriate AL or left it un-coded.

In the observations and interview analysis, I remained the only arbiter as to how the words were separated into text units, but the care plans, as social constructs of the staff, inevitably showed that the defined text units were influenced by the way the staff ordered and wrote them in logical parcels. In this way they directed and defined the text units in the care plans.

Coding is a way of making the process of analysis more accessible. A code is a tag or marker of a segment of text. The subject of the text unit was interpreted and assigned by the researcher, so that the meaning of a text unit could be inferred by its code.

It became evident, while transferring the observation data on to the computer, that it was very large and difficult to manage. To aid coding and analysis each observation was split into three parts, the patients text, the family text and the staff text (appendix 5). Searching the observation data for the markers that accompanied the text separated the observation data into these three groups. These markers were details already included in the original transcripts of the observations; (appendix 5 shows examples of these). It is appropriate to note that the data from visitors and relatives was not directly collected but only available to the study from the observations.

The observations were analyzed first, as they represented the whole picture of care as far as this was possible. The interviews and care plans reflected the patient's and staff views respectively. The widest variety of codes emerged from the observations as they contained elements of all the different perspectives. This complemented the inductive nature of the coding and resisted closure too early, which would have narrowed the coding to the patient or staff views (Miles and Huberman, 1994). This allowed the consideration of many codes that may have been missed if the care plans or interviews coding had been carried out first.

When completed, each part of the observation was then coded, by attaching one code (singly coded) or more (multiple coded) activity of living to a text unit to describe the meaning within the text unit. If the meaning could not be represented by an activity of living, the label, Not In Model (NIM) was attached. After the first round of coding using the twelve ALs, the text was reviewed again and new codes assigned to NIM units, to equate with what happened in these sections. Text units then, could have only one code (single codes) or many codes (multiple codes). In this way

the new inductive codes of NIM emerged. They represented themes that did not fit into the RLT model or were absent completely.

It is important to recognize that the developed codes are the interpretation of the researcher. Other researchers might interpret the codes differently, so absolute consensus cannot be assumed. The coding was checked again keeping the NIM codes semantically close to the meaning of the represented text. This maintained links between the code and meanings in the text. The iterative nature of the coding process enabled the codes to be refined through amalgamation and subdivision. As I was a lone researcher, the observations and developed codes were shown to staff to establish credibility and dependability. The coded observations were shown to staff with the inductively developed codes and assessed for representativeness. This was done informally and with hindsight, it would have been more productive to formalize this review and incorporate any specific criticisms back into the analysis.

To aid the reader through the thesis the twelve ALs, representing the RLT model codes are printed in bold type and the NIM codes are referred to, in italic.

Examining all twelve observations in this way, I developed new categories as new concepts emerged. At this point, there was a proliferation of codes. By examining their meaning, combining codes or discarding them, depending on their similarities or underlying uniformity, I reduced the codes, which helped to define the emerging themes more clearly.

This same process was carried out on the patient interviews. The twelve AL codes and eighteen NIM codes developed from the observational data were applied to the transcribed interviews. Eight additional new codes were identified that did not emerge from the observational data.

The care plans were then coded using the twelve ALs, and the not in model codes developed from the observations and interviews. Only six further new codes emerged, three of which were subdivisions of the code **safe,** as this category had become huge. At this point, as new codes had developed and analysis progressed, all forty-four codes were re-applied to the interviews and observations in turn. A check for coding was made and new codes were assigned as appropriate.

Analysis Choices.

During this process of coding, I faced many challenges and choices about how to handle the collected information. To ensure the trustworthiness of the results, the reader must be aware of these decisions and the reasons behind them (Silverman 1993, Miles and Huberman 1994). This supports the illustration of a decision trail advocated by Guba and Lincoln (1994). A decision trail allows the reader to make their own judgments concerning the process of analysis, the overall trustworthiness of the research and its interpretations.

Using the ALs to code the data accumulated from patients, relatives and staff from all three methods pinpointed the needs and issues that did not fit in the model. The identified codes, linked both the ALs and the other NIM codes in some instances e.g. the codes **mobilizing**, *pain* and *discharge*. At this point the codes were not merged but deliberately kept separate, to highlight needs not obviously covered by the model, but occurring in care on the orthopaedic ward. This maintained the links between the developed codes, and what was actually occurring in care.

The concept of need has been previously described as a 'want' in chapter two. A need represents a necessity and a deficit identified through a valued judgment with responsibility. In health care, this involves the patient, relative or staff, and raises the question who is deciding which needs are addressed and whose needs are they? Initial examination may assume that the needs are those of the patient, but the relationship between the nurse and patient in a ward setting is such that the nurse can dominate the nurse-patient relationship. The problems, needs and issues identified in care can therefore represent the staff's judgment of the patient's needs. My concept of needs in this study includes all aspects of care extraneous to the RLT model.

Initially the NIM codes in this study were not used to identify needs specifically in the data but were chosen to represent the text in the simplest way possible, using names that related to the text. The NIM codes did not reflect needs directly, but identified underlying complex needs raised in care by patients and staff. For example, the *pain* code represented the issue of pain; how patients and staff managed it and the many ways it was addressed. The text units showed that the patients needs were met without them necessarily being aware of all that was going on, or the reason why e.g. "Pain not controlled, morphine 10 mg IM given, leg elevated and ice pack

applied, with good effect ... Increased oral Analgesia prescribed ... Now on regular analgesia ... pain much better controlled today." This reflected needs in the data.

The NIM codes can be broken down into problems, needs and service codes. The use of problem codes (e.g. sleeping), service model constructed codes (e.g. discharge) and other codes (e.g. repeat) within the same frame of analysis, is carried out to explore how these relate to each other. These issues are addressed together on a daily basis, highlighting the complexity of care. Applying them throughout the data establishes connections in other data types, and importantly between the codes. Separating these codes and analysing them in individual groups would hide the relationship between the codes. The iterative nature of this analysis process defined the relationship between the codes, expanded the definition of the codes and checked the credibility of the coding against the text attached to it. The discharge and teamwork codes, as service codes, reflect the focused needs of the staff to achieve the goals of teamwork and discharge of a patient.

The *discharge* code represents a process of services, including all the needs to be met before a patient is well enough to leave the ward. Therefore, the code *discharge* represents text identifying the needs of staff, patients and relatives to be met before a patient can go home. The use of service codes, needs codes and other codes in the same frame of reference reflects the complexity of care and the happenings on the ward. Conceptual difficulties created by this analysis choice arose when comparing codes in data displays. The codes were not equal, in that I was not comparing needs with needs or service codes with service codes, but was examining the relationship and connections existing between all these codes. Often the full meaning of the code was hidden. For example before discharging a patient, certain issues must be met. Pain should be controlled and manageable, safety on moving maintained and the patient should be confident and anxiety free.

I analyzed the data by reviewing text in sections. I checked that the attached codes reflected the meaning of that section of text. On completion some text had several codes ascribed to them. I reviewed each code to refine its definition by examining the text attached to each code, and reassessed the suitability of each code. This revealed the subtleties and variations of each code (appendix 6 describes the code definitions).

The coding of the three data types was carried out in an iterative cyclical process, starting with the observations, then the interviews and finally the care plans. The analysis was carried out in this order to move from the general wide scope of the observations to the more focused care plans. The coding developed initially in the observations, was applied to the interviews and then the care plans in turn, at the same time developing new codes as they emerged. In this way I moved from the general observations to the specific care plans and the cyclical nature of the coding helped check and refine the codes.

Qualitative inductive analysis involves meanings emerging from the data in the form of themes or codes, whose conceptions are not always clear. Phenomenology is inductive limiting the scope for a structured approach, I do not advocate a structured approach necessarily. Fig 6.1 represents the descriptive analysis, offering an understanding of how the analysis was conducted. This approach can be placed with the Gadamer (1994) approach to phenomenology the similarity being that both acknowledge and value the interpretations of the researcher.

Coding: Using the Twelve Activities of Living

I completed the first wave of coding (stage one, figure 6.1) by using the RLT twelve ALs that represented the focus of the model. Once applied to the observational data many text units that contained important information were unaccounted for, some 2229 text units from 5811 text units. These were given Not In Model Codes (NIM). Roper, Logan and Tierney (1996) define each AL in detail. Table A9.1 in appendix 9 shows examples of text that were coded using the twelve ALs from the observational data (figure 6.1, stage 1). This showed how their meaning was acknowledged.

Developing the descriptive codes from the Observation data (Stage 2).

At this point the unaccounted text units not coded by the twelve ALs were examined and from each text unit the needs that occurred within the unit were named, reflecting the meaning that they held within that unit of text (stage 2, figure 6.1). Multiple coded text units were created to reflect the happenings in these sections of text. I found each coded unit with an AL could also be coded with a second AL or another code could be developed during analysis, depending on the content of the text. This resulted in text units with several codes attached (multiple coded text units).

A proliferation of codes developed, mapped out and simplified by combining similar codes into one code until they were no longer collapsible. In this way, eighteen additional codes and their definitions were arrived at from the observational data. The code titles were decided by the researcher and were chosen to reflect as closely as possible the ideas held within the text units. All the codes created by the researcher remained an interpretation of what occurred. Seidman (1991) acknowledges that judgments have to be made about qualitative data. Without such judgments the meaning and uncovering of what is occurring will remain vague. This raises doubts about the value of this data and analysis, however, it is only through the attempts to detect these issues that any new perspectives may be found. The Nudist program allowed the cataloguing and recording of these codes and where they occurred so that they could be recalled and examined repeatedly. The following section shows how the eighteen observation codes were applied.

The first of the codes identified was *pain,* which was attached to any text where there was evidence or discussion of pain, verbal or physical.

Worrying

The second code *worry* was applied to text units where patients referred to concerns about relatives, or potential problems occurring in hospital, home, or anxiety experienced by the patient.

Past experience

The *experience & reminiscence* code was applied to any text units where patients, relatives or staff referred to experiences that they had.

How the patients felt

The next code developed in the observations was *feel.* That was used to identify text units where relatives, staff or the patient expressed the patient's positive or negative emotions.

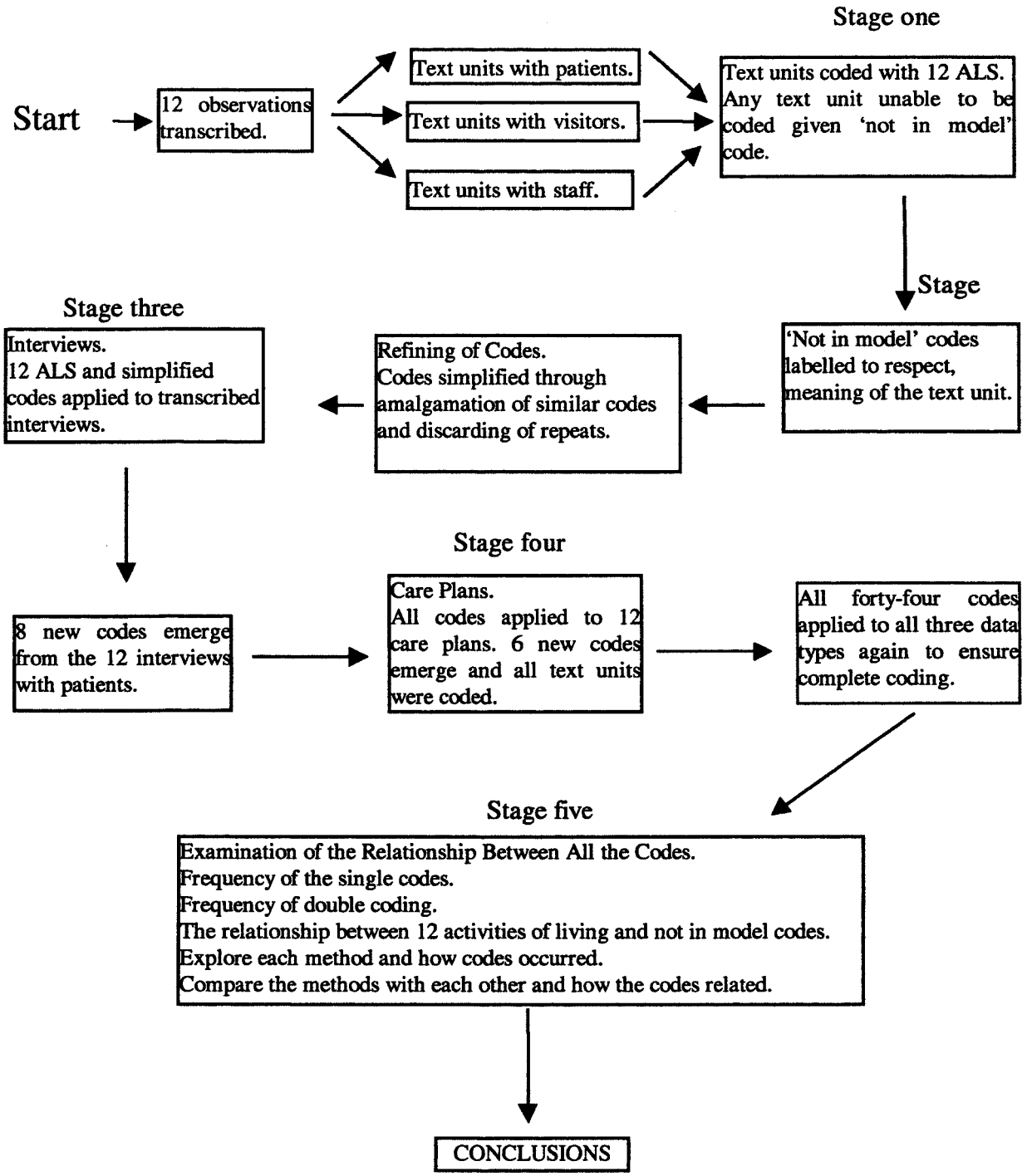


Figure 6.1 Descriptive Analysis Procedure: showing the coding process the sequential and cyclical process of code defining and their re-application to the data

Pain

Information for relatives from staff

The *relative information* code represented text units where staff and relatives were in contact, that is a relative asking about information or staff interacting with relatives and giving information.

Staff interaction

The *staff* code corresponds to all text units where staff talk or interact with each other, organizing care, involving other staff, auxiliaries, domestics, doctors, physiotherapists or other staff present.

Staff and patient's interaction

The *staff and patient* code labelled text units where staff and patients interacted together asking each other about the care being given or received.

Relatives and Visitors

Relatives and visitors noted text units, where a visitor or relative on the ward did something for the patient, that is giving home news, bringing in clean clothes or toiletries, taking away dirty washing and orientating the patient.

Discharge

The *discharge* code referred to text units containing any planning or organizing of the patients concerning going home, between patients, relatives and staff.

Patients Interaction

The *patients'* code represented text units where patients interacted with each other, becoming friends, talking and entertaining each other, comforting and helping each other.

Information giving to visitors and relatives

Using the Visitor information code, Text Units (TU) were classified, where visitors and relatives were asking for information from the staff, or the patient. I applied the information *giving* code to any text unit that showed staff giving information or reassurance to relatives or patients.

Boredom

Text units where the patient was restless and fidgeting or talked about being *bored.*

Patients wanting information.

The *patient seeking* code referred to text units where the patient asked for information from staff or relatives, and the patient was actively looking for information about care.

Control of care

In text units where a patient had a choice, or directed care for himself, or herself or another patient I applied the *control* code. This identified text units where staff gave control to patients by giving choices or gave them decision-making power, and where patients influenced what happened to other patients.

Documentation

The *documents* code noted text units that contained references to writing care plans or referred to other documents of care by the staff, patient or relative e.g. temperature charts, food charts, nursing care plans, doctors notes etc.

Orientation

In text units where the patient was orientated to their surroundings, that is, to person, time of day, current news by staff, relatives or any other patient, I attached the code *orient* to this type of text.

Observation

The last code in this stage was *observation,* which represented text units where patients were watching staff or other patients on the ward.

Table A9.2 in appendix 9, gives actual text examples for all the codes developed in the observations and the attached text. It shows how the code definitions in appendix 6 applied to the text examples.

Interviews Codes and Development (stage 3)

I then carried out stage three of the coding (fig 6.1), applying all thirty codes, the twelve AL codes and the eighteen not in model codes, to the patient interviews. Each text unit was examined

and given a code to reflect its meaning, by using an existing code or creating a new one. This created eight new codes reflecting the patients' perception of care.

Quick

The first code developed was *quick* which reflected text units where the patient identified the need to be seen quickly, with no waiting around.

Nil

The next code reflected text units where the patient was unsure about the questions asked of them or they could not answer. This was given the name *nil* for example:

Researcher "Would you be able to tell me some of the things the auxiliaries have been doing for you?"

Pt "Now which ones are them?"

R "The people in the brown, Bob's one, in the brown dresses or the white tops."

Pt "Oh I am not sure." *nil*

Aware

I attached the third code aware to text units where the patient exhibited some understanding e.g.

R "Would you be able to tell me some of the things the physiotherapist have been doing for you?"

Pt "Er what do they do?"

R "Do you remember this morning the girl in blue trousers and a white top?"

Pt "Oh yes they checked the bed and helped me up ... made me comfortable, very nice."

Friendly

I attached the *friendly* code to text units where patients talked about the approachable demeanour of the staff and commented on a pleasant atmosphere.

Teamwork

Teamwork was also identified by the patients in the interview text as important for good care, that was text units where staff were seen to be working together and helping each other.

Practical

I gave the *practical* code to any text units in the interviews where the patient mentioned what the staff had done for them, for e.g. checking machines, venflons, catheters and other practical activities.

Spiritual

Spiritual needs were also identified in the interviews as a code important to some patients who requested visits from church ministers and enjoyed seeing the chaplain on the ward.

Confidence

The last code identified from the interviews was *confidence*. It referred to text units where patients had a trust and admiration for staff looking after them, but also inspired or motivated them to get well. Table A9.3 shows examples of the interview codes with attached text.

Care Plans Codes and Development (stage 4)

All the developed codes and the ALs were then applied to the care plans. Six additional codes were obtained from this data i.e. codes not identified in the model, the observations or interviews. These were as follows.

Repeat

The first code *repeat* noted frequently occurring phrases used by staff in the care plans to record care i.e. "Pressure areas intact" or "No neuro-vascular deficits." At this point it was noted that the beginning of the care plans could not be coded as the information was specific to the patient, that was, name, age, address, telephone numbers and next of kin. Therefore, I excluded this section from the analysis.

No code

The second code in this section was *no code* meaning that a code was not attached to the text unit. This code was applied to the rest of the care plans to pick up any text units that were not coded, however every text unit had at least one code, so there was no occurrence of this code in the care plans.

Comfort

Another text unit that was difficult to code marked where the process of making the patient generally comfortable and subsequently given the code *comfort*.

As the **safe environment** code in the care plans covered a large number of text units it was re-analyzed and divided into three new codes, named *skin*, *circulation* and *infect.*

Skin

The *skin* code represented text unit where there was any activity, discussion or reference to care to protect or maintain skin integrity.

Circulation

The *circulation* code referred to text units where circulation was discussed and meant circulation of a limb or the checking and recording of the patient's circulation.

Infection

The *infection* code labelled text units with any action or discussion of infection.

Examples of these care plan codes and the text units attached to them in the data can be seen in table A9.4 in appendix 9. Table A10.1 in appendix 10, showed which codes were found in the care plans and which were not. As the codes had been developed concurrently, all the forty-four codes where then reapplied over all three data types to analyse and check the coding.

Summary of coding analysis

In stage one, I applied the ALs to the observation data. Stage two of the analysis involved examining each NIM text unit and naming each one with a new code that reflected the content of the text to which the code was attached. Therefore, each text unit possessed an individual code that reflected the meaning of the text it represented. I continued to attach new codes as concepts emerged, until all the text units in the observations were coded with either the twelve ALs or the eighteen newly developed NIM codes (appendix 6). Stage three of the analysis involved applying these thirty codes to the interviews in the same manner, identifying eight new different codes. Stage four, involved the care plans, where they were coded using all thirty-eight codes. Six new codes emerged.

I applied these forty-four codes to all three data types once again to ensure coding was complete. At this point, a very general picture was emerging of how the model was reflected in care. The

identification of the thirty two codes raised by the patients and staff out of the model, suggested that there were many important issues included in daily care, that were not being addressed by the model. By using a simple counting technique to analyze the data, a clearer picture of the data as a whole could be achieved. It also allowed the confirmation or description of any impressions about the data. As the numbers linked directly to the data, this achieved a much clearer picture of the results.

To summarize; searching for each code individually reveals how many times it occurred in the care plans, interviews and observations. This gave an overall picture of how any one particular code occurred in all three data types, and showed the different perspectives in each group. It disclosed which needs are expressed in the observations, how the patient perceived their needs in the interviews and how staff perceived patients' needs in the care plans. The N.U.D.I.S.T. program searched for individual codes in the data by searching the text for the given code and recording all finds in a separate node. This allowed the number of finds, with the text attached, to be stored for reference. It was these finds that were used to compile the graphs shown in figures 7.1, 7.2, and 7.3. They gave an overall picture of how all the codes occurred in each data type. I used these graphs to compile the summary of the code frequencies in figure 7.4, 7.5 and 7.6. This simple searching technique was also used to locate the examples of text attached to the codes as represented in appendix 9.1, 9.2, 9.3 and 9.4, all of which will be discussed in chapter 7.

In respect to the inductively developed codes it could be argued that RLT could subsume the other identified thirty-two codes. However, the use of the twelve ALs as the initial framework to code the data did not find this. The RLT model alone could not embrace all the issues raised in the data and because of this, I sought alternative codes.

The occurrence of the codes was referred to in text units per hundred rather than per hundred words. Each text unit was not simply a collection of words, but was a segment of text that represented meaning and represented issues occurring in care. I defined each text unit dictated by the sections that contained separate incidents on the ward. A text unit could be one sentence or a paragraph in length.

The care plans represent topics of study in their own right. Staff create the care plans by writing and updating them, however, they can be influenced by patient involvement in care planning. This

would involve staff, patients and relatives in discussion and negotiation to agree the goals of care. The model advocated joint decision making. In theory patients can contribute to care plans, nevertheless the nurse, as author, ultimately interprets any patient contributions to the care plans. The power imbalance between patient and staff may influence the impression of any contribution made. The inclusion of a section of care plan to be completed by a patient or relative is found in midwifery and hospice care, but this was not present on the orthopaedic ward. In the observations, interviews and care plans I found little evidence of active patient involvement in care planning, although this may have occurred at initial assessment or during the stay. The care plans were constructed, interpreted and written by the staff, making them predominantly the perspective of the staff.

Merging Codes

In Appendix 8 tables 8.3 and 8.4 represented the NIM codes merging with other NIM codes. All the tables in appendix 8 are discussed in detail in chapter eight. These tables also identified any codes that were similar and could potentially be incorporated into one another. On examining the text of codes *relative visitor*, *visitor relative* and *relative information,* they were found to be addressing similar issues and so could be merged into one code for example:

Sn "Your grandson Mark just phoned. He said get well soon." (*relative information*)

Husband "They are asking about you and how you are, except Sharon ... I am catching up with life at home." (*relative visitor*)

Visitor "How are you doing? I thought you may be gone. You look much better (talks about her holiday)." (*visitor relative information*)

Another example of this was the codes *patient seeking* and *staff patient* e.g.

Staff "You have not had much luck have you? How long were you on the other ward for?" (*staff and patient*)

Pt "Oh what's that noise? It is a funny noise. Are they having a party?" (*patient seeking*)

These two codes seem to represent two sides of the same coin that is, patients and staff asking questions of each other. They could also be merged.

The four codes *nil, no code, repeat,* and *aware* were separate from the other identified codes as they were not needs of the patient or staffs. *Nil* and *no code,* as already mentioned, had similar text contents and focused on like issues. The *repeat* code tagged text where repetition of a phrase

had occurred and did not reflect the concept being mentioned. Similarly the *aware* code was attached only to text where the patient showed some understanding of the topic being discussed and not what the topic was. These four codes are useful from a research point of view but held little use for staff on the ward. For this reason they were separated from the other codes. This is discussed in chapter 9.

Each data type represented a different perspective. The observations column represented the reality of the occurring issues on the ward. The interviews represented the patients' perception of what their needs were and the care plans represented the needs of the patient, as recorded by the staff.

Single and multiple coding.

The single and multiple coding give an overall picture of how the codes occurred, but gave no insight into how these codes related to one another. Several codes occurred in combinations in the same text unit, resulting in multiple coded text units, whilst other text units had only one code attached and were singularly coded. These text units identified a single need being met or expressed by staff, visitors or patients, showing the model was being used and in what context.

Searching through all the codes in their separate nodes I manually noted the number of single codes. This was done for all forty-four codes through all three data types. Once the singularly coded text units were identified the number of multiple coded text units could be calculated by subtracting them from the total number of text units in the project (see appendix 7).

As all the searches for singular codes had been separated into different nodes, the text accompanying these codes could be retrieved for examination. To isolate examples of multiple coding, I searched the nodes for codes that occurred together, for example, in the observations all the codes that occurred with **safe** were noted. Then using the intersect operator in the Nudist program, which finds all text units indexed by a given set of two or more nodes, it allowed the discovery of patterns of codes and the text attached, for example **safe** and *teamwork*. The program was able to select all finds of **safe** (with its text) and all finds of *teamwork* (with its text) and cross-reference them. The text units occurring in both were separated and stored in another node for examination at any time. In this manner the text, where the safe and teamwork code

occurred together, was established and the relationship between all the forty-four codes in each data type was seen. By saving the results of these searches into new nodes the pattern of multiple codes with text attached began to emerge.

The multiple coded text reflects the complexity of care, It represents issues being identified within the text unit by the codes attached to it. Some text units had only one code and others several. This imbalance of single and multiple coding seemed to be significant, as the coding reflected the complexity of the needs expressed and met. However, these had not yet been explored in any detail. Appendix 8, 8.1, 8.2, 8.3 and 8.4 illustrate how the forty-four codes related to each other, but it proved difficult to draw conclusions. Miles and Huberman (1994) linked three sub-processes in qualitative data analysis: data reduction, data display and conclusion drawing and verification.

Miles and Huberman (1994) describe data reduction or "data condensation" as involving the process of simplifying and transforming the data of the text. Data reduction occurs continuously during the study as the text is interpreted and coded, with the writing of memos, summaries, identification of themes and forming clusters. This reduction is an important part of the analysis. It organizes the data so that conclusions can be drawn and checked.

The interaction of these three sub processes enables the emergence of themes through a series of data reduction, a display of the data into a structure and then a further abstraction of meaning from the displayed data. This has a resonance with phenomenology where the representation of the phenomenon is the main consideration (Parse et al 1985). The drawing of conclusions demands that the researcher steps back and examines the whole. In this way tentative themes can be generated across the data, rather than remaining at the more descriptive level of each data set. Examining the information in these tables in an alternative structure, whilst maintaining the link with the data, explores the model and shows how it is reflected and perceived in the orthopaedic environment.

Counting on Codes

Silverman (1993) identified a disadvantage of qualitative research. The reader was reliant on the researcher not selecting only pieces of data that supported the favoured argument. The claims of a

researcher, based on a few selected examples, should be questioned. Analyzing the data by a simple counting technique clarified the data and gave the reader an overall picture. This allowed for the revision of generalizations assumed by the researcher and the exploration of the accuracy of impressions about the data. Counting, coupled with qualitative data, gives strong evidence in support or against a theory. As Silverman (1993: 165) reasoned "provided the researcher resists the temptation to try to count everything, and bases the analysis on sound conceptual basis linked to the actors' own methods of ordering the world, then both types of data can inform the analysis of the other."

Miles and Huberman (1994: 42) identify this technique as quantizing. In qualitative research, numbers tended not to be used, as the value of qualitative research was seen in its rich descriptions and not being pushed into a quantitative mould. If numbers are attached to qualitative pieces of data, care must be taken not to lose the meaning of the data. There are advantages in using numbers. The first is that numbers are more easily handled and efficient than words, so the picture that the data is giving can be seen readily by looking at the distribution of the codes within the data. Secondly, a large amount of qualitative research is influenced by intuition and following up hunches, where the ideas seem to go together. Although these ideas seem to be correct, they may in fact be wrong. Nisbitt and Ross (1980) argued that people unknowingly tended to identify with confirming instances, more than ones that disagree with their ideas, and in this way drew conclusions that were biased. This could be overcome by analyzing the whole data and looking for relevant instances, to see to what degree the idea was supported or not. This tested the idea and checked for bias.

The use of a computer simplified this process. The N.U.D.I.S.T. program was capable of counting the number of instances a particular code or word found in the text and in this way gave a picture of what was occurring in the data to elicit support or bias. Each individual code in the data was searched for in each data group, so the number of times a code occurred in each observation, interview and care plan could be seen along with the accompanying text. A note of the number of times a code was found in the data was made and this information was used to compile the bar graphs (figure 7.1, 7.2, 7.3), to give an overall picture of how the codes occurred.

Questions Raised

Although the overall picture of the codes was useful, the relationship between all forty-four codes needed exploring before any conclusions could be drawn. The data was searched once again to examine how the new codes and the twelve ALs related to each other. This posed a number of questions:

1. Could the new codes or the activities of living be linked in any way or merged?
2. Which, if any, remained independent?
3. Could any pattern of double or clumped coding be found in any of the codes and how did they relate?
4. Did this have any significance for the way staff used the model and planned care?
5. In the text units with only one code could there be themes linking them?

A large number of text units were coded with more than one code, representing a sizeable chunk of the data collected. This needed investigating to uncover any relationships between the codes and to find any forming patterns. For example in the care plans the code *repeat*, (the use of a standard phrase, 'bowels opened', 'areas intact' or 'no pain,' see appendix 6) occurred frequently with other codes like **elimination** and **safe environment**. By making contrasts and comparisons between the codes, discovering which codes were like each other, which went together and which did not, tensions and the relationships evolved between the text units.

Silverman (1993) identified a disadvantage of coding schemes. He maintained that as they were based on a set of categories, they formed strong conceptual structures from which it was difficult to break. This structure, although an excellent way of ordering data analysis, did not easily allow any missed activities to be included. By going back to the original data, the potential for re-interpretation and new forming ideas, was possible. In this study all the original observations, care plans and interviews were on the computer in their raw state and could be reintroduced for the checking of 'hunches'.

Issues of Trustworthiness

Coding and analysis of this data is difficult and time consuming. Miles and Huberman (1994) recommend as a starting point for coding, the use of a 'priori' framework for qualitative analysis. Frameworks and research questions can be used to selectively condense and analyze the material.

This study used the Roper, Logan and Tierney ALs as a guide to the initial stages of the analysis to see how the model was supported by the three data types, interviews, observations and the care plans. Secondly, the categories developed were all founded from the meaning of the text, therefore the codes generated from practice had legitimate founding. Together with this, each code can be traced back using text examples where the readers can judge for themselves the credibility of the codes.

One further way of establishing credibility was to use sections of raw data in the results. This separated the data from the analysis and allowed the reader to judge the results for themselves, whilst also evaluating the analysis made (Dingwall 1992). The use of counting is also relevant, as it provides evidence of occurrence.

The role of the researcher in making decisions concerning the coding is one that must be considered when reviewing the results of this study. As a lone researcher each code and its definition remained my interpretation. This raises issues for trustworthiness, in that another person may have interpreted the codes differently and this may have influenced the results. Several undertakings helped to limit this as much as possible. These included using the ALs as the initial framework for coding, giving structure to the coding and guiding the work at an early stage. In addition to this carrying out the coding process iteratively and reviewing the codes critically at each stage contributed to the accuracy of codes. Another significant factor during the study was the comments of colleagues and supervisors, which were taken into account, It helped to check for premature closure. The establishment of an audit trail where the reader can follow the development of the themes ensured trustworthiness. An example of this is presented in the analysis fig 6.1, and later in chapter 7 fig 7.14 and appendix 13. Throughout the thesis the definition of each code and examples of the text attached are available for scrutiny, allowing the reader to judge the legitimacy of each code. Critical opinions were developed from two sources in this study; staff reviews of the codes and data, and supervisory discussions.

The strength of qualitative data was important to this study. Collecting the data in the ward setting ensured the influences of the social setting were not stripped away. This increased the possibility of understanding hidden and non-obvious issues. Qualitative methods, which emphasize people's experiences are fundamentally well suited for this study as it explores the 'meanings' that

patients and staff placed on the structure of their hospital lives, connecting these to the social world.

Conclusion

This chapter has explained how the collected data was managed, and addressed issues of analysis. It included a discussion of meaning and how it is derived from the data. I have outlined the use of the NUDIST software as an analysis tool. Using an inductive approach, together with the aid of NUDIST computer software, I show how the data is coded and the data analysis procedures.

The process of analysis is recognized as being influenced primarily by the researcher, from the selection of the sample, to the interpretation of the coded text. However, the views of colleagues and supervisors were also sought and considered. As a practitioner researcher, insight into care and practitioner knowledge also influenced the analysis.

This chapter establishes the relevance of counting to qualitative studies and determines the extent of trustworthiness in the study through credibility, confirmability and auditability. Chapter 7 presents the results of this analysis exploring the Roper, Logan and Tierney model (1996) and how it is reflected and perceived in care.

CHAPTER SEVEN

The First Stage of Analysis

Introduction.

The last chapter outlined the method of data analysis, showing the codes created and introduced, with some examples of the text to which they were labelled. In this section the data will be examined more closely, and the results presented. The occurrence of each code in each data type is displayed and comparisons made between them, to find out the dominant codes emerging from each data type. The results presented here are constructed from the codes, which were created during initial coding. It is fundamental to the study to understand how these codes were applied; because it is through these, that the meaning in each section of text was identified.

Occurrence of codes: How the codes occurred in the data.

The previous chapter described the process of analysis and how the codes were applied to the data. The number of instances that each code was found in each data type can be seen in figures 7.1, 7.2, 7.3. The numbers used to compile these graphs were obtained by counting, using the N.U.D.IS.T. Program, which gave the number of times each code occurred in the text. To allow for the differing lengths of the observations, interviews and care plans all text units were 'normalized' (the number of occurrences divided by the number of text units and then multiplied by 100) so that the results of each graph could be directly compared. Normalizing the occurrences, gave the average or mean value of the codes. The data was converted to a scale on which equal comparisons between the data types could be made. The scale for all three graphs was in numbers for every 100 text units. Each find represented a text unit coded with one or more of the forty four codes. When viewing the graph it should be remembered that each text unit was not a standard length of text.

The codes were reviewed and categorized in each data group. Then using the twelve ALs as a guide, an analysis was made to find out how the model was reflected in the data. The codes were then analyzed by occurrence to explore the NIM codes and the relationship with other codes. In this way an assessment of the issues arising in care were identified as they emerged from the data.

This continued the process of analysis identified by Miles and Huberman (1994) involving data reduction, data display and drawing tentative conclusions as discussed in Chapter 6. Using this process themes emerged from each data type were identified.

The Observational data.

Figure 7.1 represents the observed issues raised by patients and staff as identified by the codes (which are defined in appendix 6). A text unit (TU) as described in chapter six is a section of text representing a "parcel" of information. In the observations this was decided by the researcher, so that each TU recorded a happening. The following group of codes occurred less than 1 in 100 text units representing a low occurrence. These were **sexuality** and **breathing** from the activities of living (ALs), *spiritual* from the interviews, *relative information* and *visitor and relative information* from the observation codes *repeat, skin, circulation, infection* (which represented text that referred to action to take or discussion of care involving infection e.g. how often to change a dressing) and *no code* from the care plan codes.

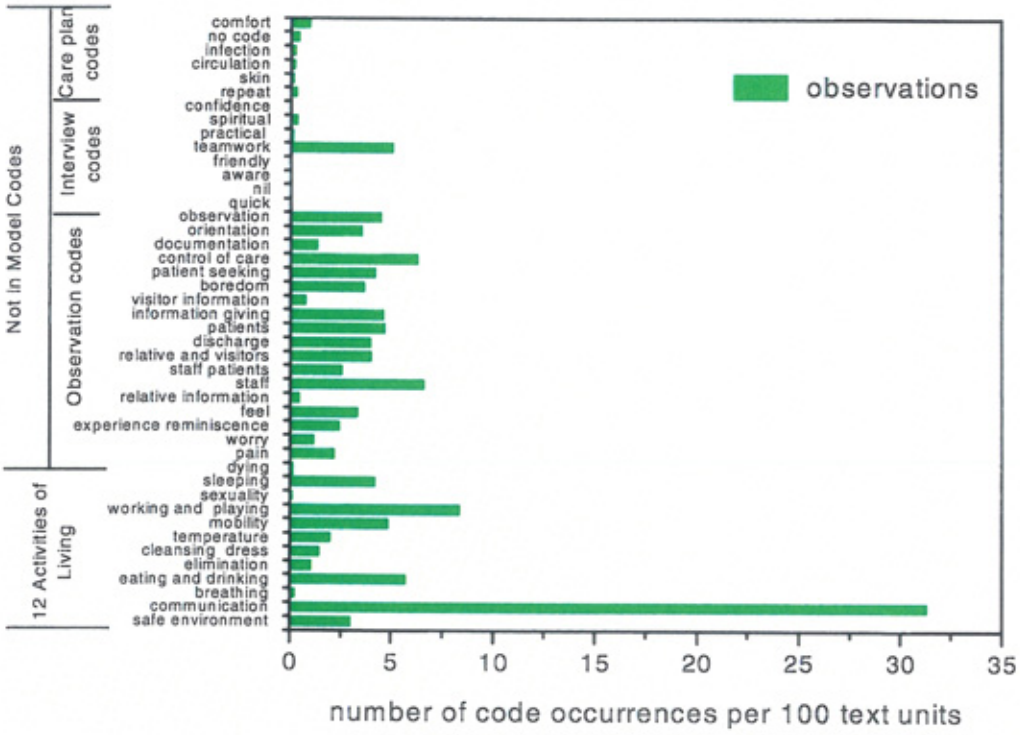


Figure 7.1 The occurrence of codes in the observations

The next range between one and four finds per 100 text units had the majority of the codes in this graph. These were four from the ALs, **safe environment, elimination, cleansing and dressing** and **temperature** and six from the observation codes, *pain, worry, experience & reminiscence, feel, staff & patient* and *documentation.* Between four and five finds per 100 text units, two ALs were found **mobilizing** and **sleeping** and eight observation codes, *relative & visitors, discharge, patients, information giving, bored, patient seeking,* and *orient.* Above five finds there are two from the ALs, **working & playing** and **eating & drinking,** two codes from the observations, *control* and *staff* and one from the interview code *teamwork.* The last and largest find in this section was **communication** at thirty-two finds per 100 text units. This could be attributed, in part, to the nature of data collection in that when observing, a large proportion of what was recorded was spoken communication. Taking this into account, a large proportion of what was happening around the patient was communication and proved the relevance of good dialogue on the ward.

The observation results represent the observable needs of the staff, patients and relatives on the ward on a daily bases. They showed clearly, that the model failed to include all the needs and expectations of the staff and patients. These observations did however identify other needs that were carried out and met by staff and patients.

The Interview data.

Figure 7.2 represented the patient interviews and how all the codes occurred in the interviews. The interviews gave the opinions of the patients and allowed them to identify which aspects of care they saw as important. This displayed very different codes from the observation graph. Four of the codes had no occurrence at all, one of which was **sexuality** from the activities of living. The other three originated from the eighteen observation codes (*staff and patient, visitor information* and *observation*). The patient interviews did not identify these needs or problems, suggesting that the patients did not consider that they were significant to their welfare. Thirteen of the codes in the interviews were below one find in 100 text units. Five of these were activities of living, (**breathing, temperature, working and playing, sleeping** and **dying**) five from the not in model codes, (*relative information, relative and visitor, patients, patient seeking* and *documentation*) and one from the interview codes, (*practical*) and two from the care plan codes,

(*circulation*, *infection*). These low occurring codes suggested that in this sample although acknowledged by the patient, they were not often mentioned.

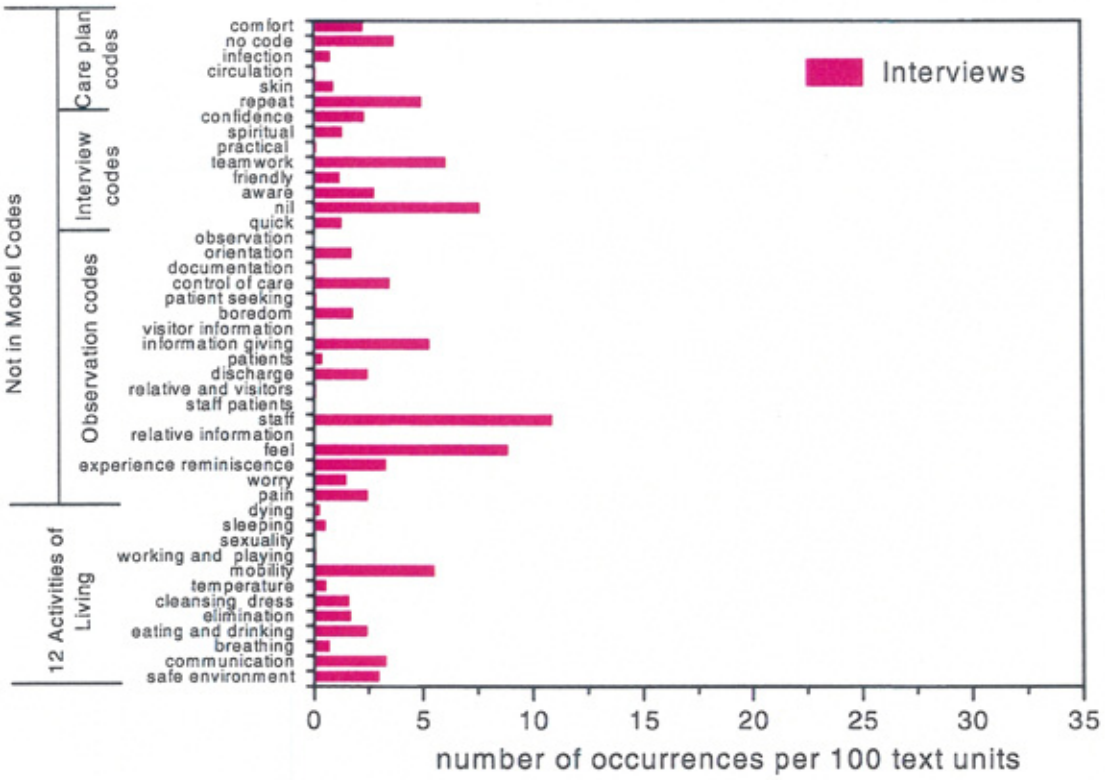


Figure 7.2 The occurrence of codes in the interviews

The next group of codes occurred between one and four text units per hundred. Five were from the twelve ALs (**safe environment**, **communication**, **eating and drinking**, **elimination** and **cleansing and dressing**) and seven were from the observational group, (*pain*, *worry*, *experience & reminiscence*, *discharge*, *bored*, *control* and *orient*). The next five were from the interview codes (*quick*, *aware*, *friendly*, *spiritual*, *confidence*). The last two came from the care plan codes (*comfort*, *skin*). There were no occurrences of codes with between four and five text units. One AL code, **mobilizing** had above five finds per 100 text units, and two Not in Model codes *feel* and *information giving* also had above five finds per 100 text units. The two interview codes above five were *nil* and *teamwork* and the *repeat* code from the care plans.

The last code, *staff*, which was developed during the observations, had the largest occurrence in the interviews. This was mentioned by the patients most frequently in the interviews and was attributed to two factors; the primary nursing management style, where the patients form strong relationships with staff and that in the patients' opinion members of staff on the ward occupy a significant and focal role for care. On the whole patients prefer staff to hold the decision making power albeit with consultation, and not the patients as advocated by the RLT model (1996).

To summarize, the Roper, Logan and Tierney model had six ALs that occurred below one text unit per 100 in the interview graph. The ALs **dying, sleeping, working and playing, sexuality, temperature and breathing** occurred less than one text unit per 100. That there was little in the interviews regarding dying etc. does not necessarily mean that they did not matter to patients but that they were hard to express in an interview. However, the patients did identify significantly with other elements **mobilizing, eating and drinking, communication** and **safe environment,** suggesting that these were of concern to them during their stay, and that they occurred with regular frequency in the data.

One outcome noted in the interviews was that some of the codes outside the Roper, Logan and Tierney model also occurred frequently, suggesting that these issues were significant and as such were being raised by the patients in the interviews. These codes were *comfort, confidence, teamwork, orient, control, bored, information giving, discharge, staff, feel, experience & reminiscence* and *pain.* This suggests that the codes developed had a relevance to the patients, who vocalized these needs, on interview, some of which were not observable in the observations.

The Care plan data.

Figure 7.3 represented the number of codes that occurred in the care plans. The care plans represented the daily care of patients as recorded by the staff. The care plans were used to co-ordinate the care given to patients and could be referred to by the patients themselves as desired. As the care plans were written by staff, they remained their creations and recorded what staff identified as important to care for patients. The first page of the care plans was not coded due to the confidential type of information recorded there (age, next of kin, names addresses, telephone numbers and investigations). The nursing assessment was included in the coding.

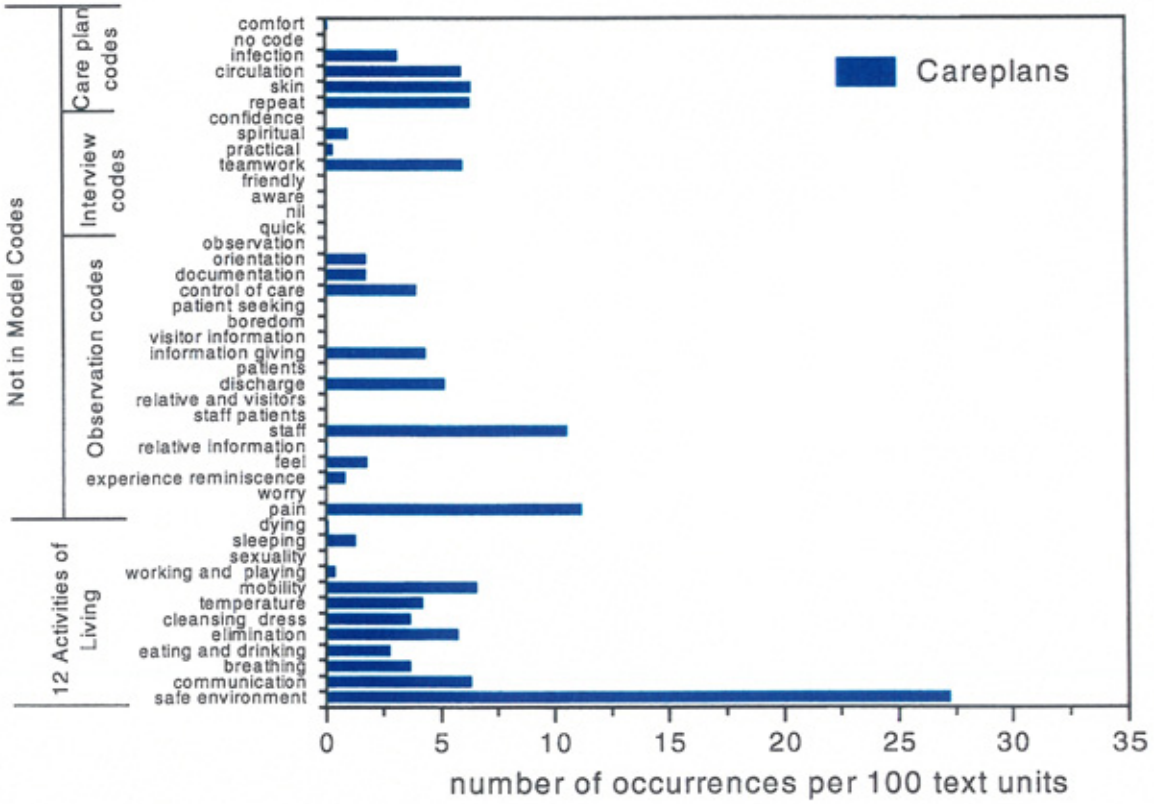


Figure 7.3. The occurrence of codes in the care plans

Seventeen of the forty-four codes identified in the total analysis were absent from the care plan graph. One of which was *no code*. This indicated that all the information in the care plans could

be coded using the twelve ALs and the NIM codes. The codes absent from the care plans were five interview codes (*confidence, friendly, aware, nil and quick*) and nine observation codes (*observation, patient seeking, bored, visitor information, patients, relatives and visitors, staff and patients, relative information* and *worry*) and two activities of living codes (**sexuality** and **dying**). This represented most of the codes identified and also has implications for how the model was being used. It indicated that the majority of the Roper, Logan and Tierney ALs had been identified and used by staff.

In figure 7.3 four codes, one from each group, occurred less than one Text unit per 100. These were **Working and playing** from the activities of living, *experience and reminiscence* from the observational group, *practical* from the interviews and *comfort* from the care plans. These codes had been identified as occurring infrequently in the care plans. Three codes from the activities of living **breathing, eating and drinking** and **sleeping** occurred in the next group (occurrences between one and four per 100 text units) along with *feel, documentation* and *orient* from the observational codes, and *spiritual* from the interview code as well as the observation code, was in this range. The next range between four and five per 100 text units had two codes from the twelve activities of living, **cleansing and dressing** and **temperature** with one from the observational group *information giving* and one from the care plans ***infection***. In the above five finds per 100 text units, three were from the activities of living, (**communication, elimination** and **mobilizing**) one from the observational group (*discharge*) and one from the interviews (*teamwork*) with a further three codes from the care plans (*repeat, skin, circulation*).

In the higher groups of occurrences, above ten finds per 100 text units, *pain* and *staff* were prominent. Above fifteen, at twenty-seven, **safe environment** was the highest code of all in the care plan's graph. It was surprising how these graphs showed that many of the codes developed in one data type were not found in another. This happened mainly in the observations and interviews codes. The high occurrence of **safe environment** in the care plans was another notable find. As care plans are documents that could apportion accountability of staff members, staff diligence and awareness of this element of care was high.

Focus on Twelve Activities of Living

The aim of the study was to explore how the RLT model influenced practice. On examining the twelve ALs in the graphs representing the model, there were a number of surprising finds that

need to be considered. Roper, Logan and Tierney (1985,1980, 1990, 1996) defined the twelve ALs in great depth, touching on the wide variety of issues that fall under an activity. Each AL will now be taken in turn and examined. Text examples will be given to show how they were reflected in practice through the three data types.

The Safe Environment code.

The **safe** code had low representation in the observations and interviews, perhaps reflecting the difficulty in recognizing the many subtle ways in which people on a daily basis continually adjust to their environment. For example from the observations:

Sn "Just going to check your blood pressure and temperature"

"OK, thanks" Sn leaves the room, ... (returns takes the drip stand away). **safe,** ***circulation,*** **temperature**

And from the interviews:

Pt "Em, the auxiliary has been taken me temperature things like that, which eh, the staff nurse has been doing me dressings, me wounds eh, like and the physiotherapist telling us how to get up and about and that's it really." **mobilizing, safe,** *infect,* **temperature,** *teamwork.*

The **safe environment** activity permeates all aspects of everyday life. It could not be separated from the other actions on the ward. The **safe environment** aspect of care is relevant through all aspects of nursing. In the care plan graph the **safe** code was strikingly high. As safety is of paramount importance to all staff this is hardly surprising. The phrase, "do no harm" is impressed on all student health care professionals' minds during their training. Another interesting issue is that the care plans represent a record made by the staff themselves. However, this record does not represent the exact care given, but only the staff's perception of what is important to record. In an environment where care plans are used to monitor and evaluate care, staff may be emphasizing aspects of care to protect themselves from criticism. The care plans could be used as evidence or proof of what care was given. For example

"Wounds on ankle redressed with primapore this afternoon. To be reviewed by doctor then plaster of Paris and home." **safe,** *infection, teamwork, discharge.*

and

"Commenced walking with crutches non-weight bearing, managing, but needs supervision, continuing ankle exercises." **safe, mobilizing.**

Because of the necessity to provide proof of the care given to patients, the **safe** aspect of the model occurs frequently in the care plans, as it is seen by staff as an important need for communication between themselves and ensures the correct care for the patients. Interestingly, in the interviews the safe code was not greatly identified by the patients. **Safe environment** is a preventative aspect of care and what the patient is not aware of, they would not identify in the interviews. In the observations the **safe** code was difficult to identify as it was all-pervasive and such an integral part of daily ward life. Clearly this part of the model was multifaceted and of vital importance to staff and patients in the orthopaedic environment.

The Communication code

The **communication** code as seen in the observation graph (7.1) is exceptionally high. This could be due to the nature of the observational data collection that enabled the recording of exchanges. Each text unit is about communication and does not represent communication itself, as arguably every text unit could be given this code. It also implied that a significant number of the observable activities on the ward, centred on the patient and involved **communication**. This makes it an important element when giving orthopaedic care and suggests that if this was impaired or lacking between patients and staff, the well being of the patient would be seriously affected. For example, from the observations text:

Staff nurse enters to hand over to auxiliary. At the bottom of the bed she explains to auxiliary what has happened to the patient,

"Mary's had a Thompson's, started on IV antibiotics, intra-venous therapy and on bed rest for now."

Pt "I was in two weeks ago, after a fall, for one week. This time I fell and now this, I don't know what happened." Both staff nod, listening.

Staff "We will get you sorted out." **communication,** *staff, teamwork.*

The **communication** code also played a large role in meeting the needs of the patients through the co-operation of relatives e.g.

Visitor "Put the date on it, 15th of the 2nd."

Pt "This is to authorize my sister to take money out."

Visitor "I'll tell them who I am. You best put my name down, I will show them your pension and rent book for proof? OK." **communication,** *relative and visitor, orient.*

Communication between staff was essential for the smooth running of the ward, as this instance shows when a porter arrives from X-ray e.g.
Staff 1 "Is this lady Kevin's? They are here from X-ray."
Staff 2 "No. She is Ann's. It's Molly in bed nine, who is to go down."
This type of communication appeared frequently in the observation.

In the interviews (fig 7.2) the communication code was very much lower, possibly because the patients were having their needs met, and did not feel the need to communicate. They only referred to it in the interviews as someone to talk to or to explain something, as these examples show:
Pt "Eh why, they explained what they were going to do. You know the operation to me spine, eh what the pros and cons of the operation were, just really explaining things." **communication,** *information giving.*
Pt "You know chatting and talking and that's about it, change me dressings and that. Well the physiotherapists they chat with us to see whether I can move part of me legs and feet and that." **mobilizing, communication,** *friendly, repeat,* **safe environment,** *infection.*

In the care plans the communication code was found twice as frequently as in the interviews, but a great deal less than in the observations. Once again, it could be argued that the whole of the care plans represented communication as they were written to pass on information to other staff. In the care plans the communication code was only given to text about communication between patients, relatives or staff as these three examples show e.g.
Patient advised to let staff know if toes become difficult to move or painful in the back-slab. ***communication,*** *information giving,* ***safe,*** *pain.*
and
Plaster technician telephoned to inform that he will come up this p.m. for application of full leg plaster. **communication,** *teamwork.*
and
Relatives present on admission, informed of plan of care, will visit again tomorrow morning. **communication,** *information giving.*

These results show that staff and patients in the observations and care plans were using communication. However, communication as an activity found in the care plans and observations is different from communication in the RLT model. **Communication** in the model concerns the mechanics of communication and optimising these on an individual basis, for example use of visual and hearing aids (Roper, Logan and Tierney 1996: 113). The communication code in the data represents negotiation of care between staff themselves and staff and patients and relatives. Staff have developed the element of communication to negotiate and meet the nurses' and patients' needs in an orthopaedic setting. Wimpenny (1999) supports this. He found a "surrogate" model evident in the perspectives of nurses in relation to models of care. This surrogate model is the functional representation of the theoretical model as influenced by the nurse's own mental model. The surrogate model is the interpretation of the theoretical model and represents the interpreted framework used to guide practice. **Communication** is of vital importance to the planning and carrying out of patient care and this has been moulded to fit the needs of the orthopaedic environment. The patients were less aware of this role in the interviews, but this had little influence on the care they received.

The Breathing code

The activity of living **breathing** was below one per 100 text units in both the observations and the interviews and significantly higher in the care plans. This result reflects the sample; few of the patients had any breathing problems, so it did not arise as a need and was therefore not mentioned in the interviews, neither was it found frequently in the observations. Here is an example of where it was found and coded e.g.

From the interviews

Pt. "Oh yes I was coughing and I said just a little bit in the morning and I brought up a lot of phlegm you know, thick up. Eh, well, I had a chest infection so she helped us get rid of that with breathing exercises. Em now they are trying to get us back up on me feet." **mobilizing, breathing.**

In the care plans, where staff had identified a problem, the breathing code was attached to text e.g.

Breathless on admission, ex smoker, has had a productive cough recently and is taking antibiotics at present. Sputum specimen required in the morning please. *staff*, **breathing.**

Or in the assessment e.g.

Breathing: Shortness of breath on exertion, has emphysema and chronic bronchitis.

Breathing was also applied to text unit where staff had considered the problem but no problems were evident to care e.g.

Normally no problems, no breathlessness on admission. **breathing**

Observations normal, foot pink and warm. To have oxygen four litres overnight until fully awake. Leg elevated. Can begin physiotherapy, non-weight bearing in the morning. **breathing, mobilizing,** *circulation.*

So the activity of living code **breathing** was used more in the care plans than the other two data types. The staff recorded not only the problems with this activity but also the normal state of the patient and the lack of a problem in this area.

The Eating and Drinking code

The **eating and drinking** code was represented in all three graphs. In the interview (fig 7.2) and the care plan graph (fig 7.3). It was represented at approximately the same level 3 per 100 text units. In the observations (fig 7.1) it was represented higher at 6 per 100 text units. On examining the text attached to this code it occurred mainly at meal times.

This code was also attached to any text where the relatives or visitor made some comment about food e.g.

Patient (Pt)" Take them out I've got an ulcer."

Wife Gets up, goes to locker, pours juice, takes dentures out.

"It looks a little red" puts dentures back in. **eating and drinking, communication,** *relative and visitor control, feel.*

In the observations **eating and drinking** was referred to not only at meal times but also when relatives or visitors were involved. **Eating and drinking** was often discussed in conversations. In the interviews this AL arose only when the patient complimented or complained about the food:

"A bit of rice pudding and custard but I cannot eat them big meals at all, and eh the food is splendid, aye, it is, yes I used to be a cook so I should know." **eating and drinking,** *experience reminiscence.*

In the care plans this code was always identified by staff in the initial assessment where they established the patient's normal eating pattern, if they were on a special diet or how much alcohol they drank, for example:

"Nutrition fair to good, has had a recent ulcer, likes milky drinks, no alcohol taken, has two sets of dentures and appears in proportion for height and weight."

A second example of this code being used in the care plans was when the patient was going to theatre e.g.

"For theatre tomorrow please starve from six am onwards."

Here are two other instances of using the code. The first was in reference to dehydration and the use of intravenous fluids and starting a normal diet e.g.

"Intravenous antibiotics given, intravenous fluids given, last bag, no further fluids required as eating and drinking well."

The second concerned vomiting and the prescribing of preventative drugs e.g.

"Pulse oximeter at 95%, with oxygen, injection given for nausea and vomiting, Intra-venous therapy as per prescription, has now passed urine."

The **eating and drinking** code appeared in all three perspectives, but more so in the observations. Unless there was a specific problem, or a medical need, it did not appear in the care plans.

The Elimination code

The activity of living **eliminating** was coded low at below 2 per 100 text unit in the observation and interview graphs and relatively high at 6 per 100 text unit in the care plan graph. The low result of this code in the two graphs could be due to the nature of the activity of living. Going to the toilet is normally a private affair. Patients taking part in the study may have been reluctant to address this need, whilst being observed. Likewise on interview some patients may have been reluctant to bring up the subject. In the care plans however, the staff responsible for care assessed each patient, and if it was identified or developed as a problem, remedial plans were made. Some examples of this are as follows from the care plan assessments,

Elimination: Bladder suffers from frequency and has had recent infection. Wears pads. Urine sample to be sent in the morning.

Bowels: Goes alternate days, prone to constipation takes no medication, has a high fibre diet. **Elimination.**

The following are examples recorded in the evaluation sheets of the care plans e.g.
Urine very concentrated and foul smelling overnight. Doctor informed, Aware of probable urinary tract infection for mid stream urine sample in the morning. **Elimination.**
Intravenous therapy discontinued, has slept well, passed 300 ml of urine overnight. Now started on antibiotics. **Elimination, safe, sleeping.**
Bowels not opened. Laxatives given as prescribed. **Elimination.**
These results showed that the staff, in both the assessment and the actual care plan, was using the model code **elimination**. On each shift, and on a daily basis, staff referred to the patient's status, noting care given or the action taken.

The Cleansing and Dressing code

The **cleansing and dressing** AL was surprisingly low in the three graphs. Staff claimed to spend a large part of their time 'washing' patients. The occurrence was four text units per 100 in the care plans graph and only three and two text unit per 100 in the observations and interviews graph. This was interesting, as nursing staff indicated that washing and changing patients occupied a large amount of their time. Often this time was used to assess the patient, e.g. pressure areas and how they are moving and feeling that day. However it was represented relatively low in all three graphs. The low occurrence in the observations (fig 7.1) could be due to the sample of patients selected for the observations and also at what time the observation took place. Most patients were washed and dressed in the morning, some before breakfast, and consequently before the two hour observation period commenced, resulting in a low occurrence of this AL in the observations. This influence would not have applied to the other two graphs.

The perceptions of the staff may be accurate due to the nature of the data collection. All the information collected was patient focused. Each observation concentrated on one patient, as did the interviews and care plans, So the patient experienced only one episode of this activity of living, whereas staff, who are looking after several patients, spend a significant part of their day facilitating this activity of living, dividing their time with each individual patient and prioritizing care with the time and resources available.

In the interviews the patients referred to this AL in the following examples:
Patient (Pt) "Oh I am very careful. I am by myself all day you know. I put about and polish me bathroom. I wash at 7 am in the morning. My clothes come in ironed." *Experience and reminiscence,* **cleansing and dressing.**
And
Pt "Oh yes lifting me up and straightening me when I slipped down that was very helpful and they are helpful when they bath me. Yes I have no complaints at all, I wish I was a millionaire I'd give them all my money." **Mobilizing, cleansing and dressing**, *comfort, repeat.*

These text units show how the patients perceived the AL, **cleansing and dressing**. It occurred every day, established a routine and gave a structure to their day. **Cleansing and dressing** is a significant need. However, if it was not carried out it would not be life threatening to the patient. This was reflected in the text where it was so familiar to the patients that they sometimes almost forgot to mention it e.g.
Researcher (R) "Staff do many things for different patients. Could you tell me how some of the staff have been helping you whilst you have been in hospital?"
Pt "Em the auxiliary nurse has been taken me temperature, things like that, which eh the nurse has been doing me dressings, me wounds, eh like the physiotherapist telling us how to get up and about it really. (pause) Eh the consultant he told us a bit about what the operation and things like that and well the nurses have been washing me hair."(laughs) **Cleansing and dressing, communication, information giving, mobilizing, safe environment,** *infection*, **temperature,** *teamwork.*

In the interviews the patients were aware of this AL. In the care plans this AL was represented in the assessment as an outline of what the patient normally would like to do as follows e.g.
"Personal dressing: Normally independent with some help from her husband for weak rt. arm.
Hygiene routine: likes a shower. Will need assistance in hospital."

In the care plan evaluation sheets, a short reference was made to the AL to note that it had been attended to for example "Assisted with hygiene needs" and "Wash in bed". This showed that the AL was being used by the staff but was not viewed as a priority of care and needed little

explanation. These results show that **cleansing and dressing** in the orthopaedic environment, although used, is perceived as just an expected routine, and therefore, less need for comment in the evaluation.

The Temperature code

This AL, like **elimination** was low in the observations and interviews and significantly higher in the care plans. Here is one example from the observations and interviews respectively: Pt sitting up in bed, student enters. Goes to end of the bed checks the patient's chart and takes temperature "37.2 a little bit down. That's good, a little bit lower than before." writes it on the chart. **Temperature**, *documentation, information giving.*

In the care plans the temperature code was represented in the assessment by measuring the patient's temperature and in the evaluation records the activity of living was typically referred to as follows:

"Temperature elevated to 38 this evening. Doctor to be informed." **Temperature**, *staff, teamwork.*

and

"Given nebulisor as chest seems very tight, now managing to cough up phlegm with ease. Temperature down to 36.5." **Temperature, breathing**, *teamwork.*

and

"Apyrexial, wound oozing slightly." **Temperature**, *infection.*

From these examples it can be seen how the activity of living is used on the orthopaedic ward. The patient perception of the AL is low but in the care plans it is clearly evident. This suggests that staff understand the importance of this AL and document it frequently in the care plans, even when there is no problem with the patient's temperature.

The Mobilizing code.

The activity of living **mobilizing** is found to occur relatively frequently in all three graphs indicating that it was perceived as important by both staff and patients in the orthopaedic environment. It was found highest of all in the care plans, in both the assessment and the

evaluation sections. In the assessment it addressed how fit the patient normally was and how they could walk and move:

"Mobilizing: Uses a Zimmer. Unable to manage stairs." **Mobilizing.**

And

"Mobilizing: Normally completely independent, plays football and cycles." **Mobilizing.**

In the evaluation section the mobilizing activity of living was represented by staff recording how the patient was managing to move that day and if any goals were achieved and what the plan of care was incorporating, occupational therapists, physiotherapists and doctors e.g.

"Back slab remains in place, no neuro-vascular deficit, has been referred to physiotherapist." **Mobilizing, safe environment**, *teamwork.*

And

"Seen by doctor, back-slab to be removed and physiotherapy to commence. To have full plaster applied once 90 flexion of ankle." **Teamwork, safe environment, mobilizing.**

In the interviews the patients also raised the **mobilizing** issue e.g.

Pt "They have been making sure my legs don't shorten, helping us to stand using the lift and they are trying to get us to start walking, I am not sure I am looking forward to that." **Mobilizing**

And in the observations the relatives and patients were focusing on this activity of living e.g.

"Husband talks about slippers with no heel to help wife walk, they talk about walking from the bed to the chair." **Mobilizing.**

And

Pt "I was going to ask the Dr to put a lighter cast on next time. Do you think he will?" **Mobilizing.**

These results showed that the **mobilizing** activity of living in the orthopaedic environment was a focal point not only for staff but also for patients and relatives. This suggested that in the orthopaedic environment the **mobilizing** AL was used frequently and perceived as significant by patients, staff and relatives.

The Working and Playing code

The **working and playing** AL had a high occurrence in the observation graph and very low in the Care plans and interviews, suggesting that patients and staff do not consider this AL as a need to

be filled. They did not raise it in the data. This is enforced by what was said in interview twelve, concerning this AL:

Pt "That Bob has been a pain in the bum (laughs) No, not really but it has been boring at times. Yes, they have been trying to keep us happy, like sometimes I have to hold me sides." **Working and playing**, *bored, repeat.*

None of the other interviews contained a reference to this AL. In the care plans there were few examples:

"Occupational leisure time interests: Retired miner, Watches TV and likes to read." **Working and playing**, *bored.*

And

"Occupational leisure time interests: Works full time as a fruit packer. Enjoys racing motorbikes and fixing them." **Working and playing.**

It should be noted that all the references to this activity of living in the care plans were found in the assessment section and were similar to the two examples above. No examples were identified in the evaluation section, which suggested that the staff did not view this AL as a vital part in their care planning.

In the observations this code was identified at 8 text unit per 100, suggesting that in practice this activity of living was being met but was not identified by staff as a priority problem. The patients identified it as a problem but did not expect it to be fulfilled by the staff on the ward and rather accepted it as an unpleasant fact of life whilst being ill or in hospital e.g.

Pt Talks to her husband about football, husband reading the newspaper.

Pt 2 Picks up the newspaper and reads it, very close to her face. Puts it down then lies back. **Working and playing, communication.**

And

Pt 1 "Yes I don't know where I get it from. You could go mad in here if you don't have a laugh." (painting her nails)

Pt 2 "Does you good eh."

Pt 1 "I hope the TV comes back on as I can't wait to see Home and Away." sits back, hands on head.

Pt2 "It must be the transmitter." Working and playing, communication, sexuality.

So the activity of living working and playing was evident in orthopaedic practice but was not a planned part of the care plan. The patients also identified it, but did not expect it to be met in care.

The Sexuality code

The **sexuality** code occurred in the observational graph at below one per 100 text unit. This represented a low occurrence, and the sexuality code was absent with no finds in the interview or care plan graphs. On examining the text where this code occurred in the observations, it very loosely addressed the issues of sexuality for example:

Husband says his good byes, kisses patient and leaves the room. **Sexuality, communication.**

And

Pt sitting quietly facing the window on to the balcony, wife holding his hand. **Working and playing, sexuality**, *relative and visitor.*

The low occurrence of the **sexuality** code was not too surprising, as the ward environment with its thin veil of privacy, does not allow for normal sexual relations. No one referred to this topic, and the presence of numerous staff and other patients meant that sexual relations would be curtailed and result in a low occurrence on observation. This same reason could also account for the complete absence of the activity of living from the interviews. Patients could have been too embarrassed to raise the subject as a need they wished to be attended to, and possibly did not want or expect staff to address this issue. In the assessment section of the care plans there was no reference to this activity of living, other than a record of what gender the patient was. There was no place in the formal assessment for sexuality, and staff made no reference to it informally in the care plan. This shows that in this sample in the orthopaedic environment **sexuality** was not identified in care by patients and staff. This does not mean that the issue of sexuality is not important, only that patients and staff do not identify it. This raises questions regarding who is deciding the focus of care and which issues dominate the limited time for care; Care is focused on issues that are valued as legitimate needs and perhaps those, which staff can influence.

The Sleeping code

The AL **sleeping** occurred at different amounts in all three graphs. The lowest in the interviews at below one per 100 text units and only marginally higher in the care plans at two per 100 text unit and at four per 100 text unit in the observational graph (fig 7.1). The text coded with this activity

of living from the observations, represented where the patients were actually sleeping, requesting to go to bed or medication to help them sleep e.g.

Pt buzzing "Yes hi, I would like to go to bed I am really tired." **Sleeping,** ***feel, control.***

In the interviews the text coded with this activity of living referred to problems the patients had with sleeping in hospital e.g.

Pt "Yes and no sometimes I feel very, you know, bored and you just tend to try and sleep a lot but of course you sleep so much during the day it is difficult to sleep at night. **Sleeping,** *bored, feel, repeat.*

And

Pt "A bit noisy at night (laughs) very noisy at night, but I guess its nobody's fault really ... That door banging that's one, and these machines on the end of the bed are noisy and added to that there seems to be another little bell that seems to go off. Even the nurses said it was driving them mad last night. They really are bad. Can't get to sleep. You don't get much sleep you know. **Sleeping,** *feel,* **safe environment,** *skin.*

In the interviews (fig 7.2) the patients identified problems with sleeping on an orthopaedic ward. Although the activity of living was not referred to frequently, where it was identified, as the above text showed sleep and its distractions were a consideration. In the care plans **sleeping** was also identified in each patient's assessment where their 'normal' sleeping pattern was documented e.g.

Resting, sleeping: No problems, has about 8 hours sleep a night. Takes no medication. **Sleeping.**

And

Resting, sleeping: Problems regarding pain in the bladder and spondylosis of neck usually leads to interruption of night sleep. Takes naps in the afternoon and hot drinks during the night. Doesn't like sleeping tablets.

Staff had also referred to this AL in the evaluation records giving up dates on how the patient was, concerning **sleeping** e.g.

On return from theatre, Bill has made a good recovery, settled and dozed during the night. **Sleeping.**

And

Intravenous therapy in place and running to time. Has remained sleepy since returning from theatre and has not required analgesia. **Eating and drinking, sleeping,** *pain.*

Sleeping was identified by staff and was referred to more frequently, than some of the other ALs. In an environment where there are finite resources and time, staff continually focus on different aspects of care, because the needs of the patient change as they progress along their individual trajectories. Sleeping, although an important AL, was referred to infrequently in the care plans.

The Dying code

Dying was identified infrequently in the observations and interviews and was absent from the care plans. These results were influenced by the exclusion of any terminally ill patients in the sample. The care plans, as creations of the staff, represented social products and are what the nurse records about care. Dying may have been a concern in the nurses' mental model but this was not recorded in the care plans. The code **dying** had a very low occurrence in the interviews. Occasionally it was mentioned by patients, but only in an indirect way e.g.

Pt "Not really, I wouldn't want to see the chaplain not unless I was going to die, but I don't think it is a life threatening injury, (laughs) I hope not." **Dying.**

This suggested that dying was not a preoccupying thought for patients on the orthopaedic ward. Other problems and needs were more frequently identified by the patient. In the care plans it was not mentioned once, neither in the assessment nor the evaluation records.

Summary: How the Twelve Activities of Living Occurred.

The twelve activities of living can be seen in figures 7.4, 7.5 and 7.6. They represent a summary of the dominant codes emerging from the three different data types. Figure 7.4 represented the observations. The majority, eight ALs being found with less than five text units per 100. This left **mobilizing, eating and drinking, working and playing** and **communication** as the four most frequent ALs from this data type.

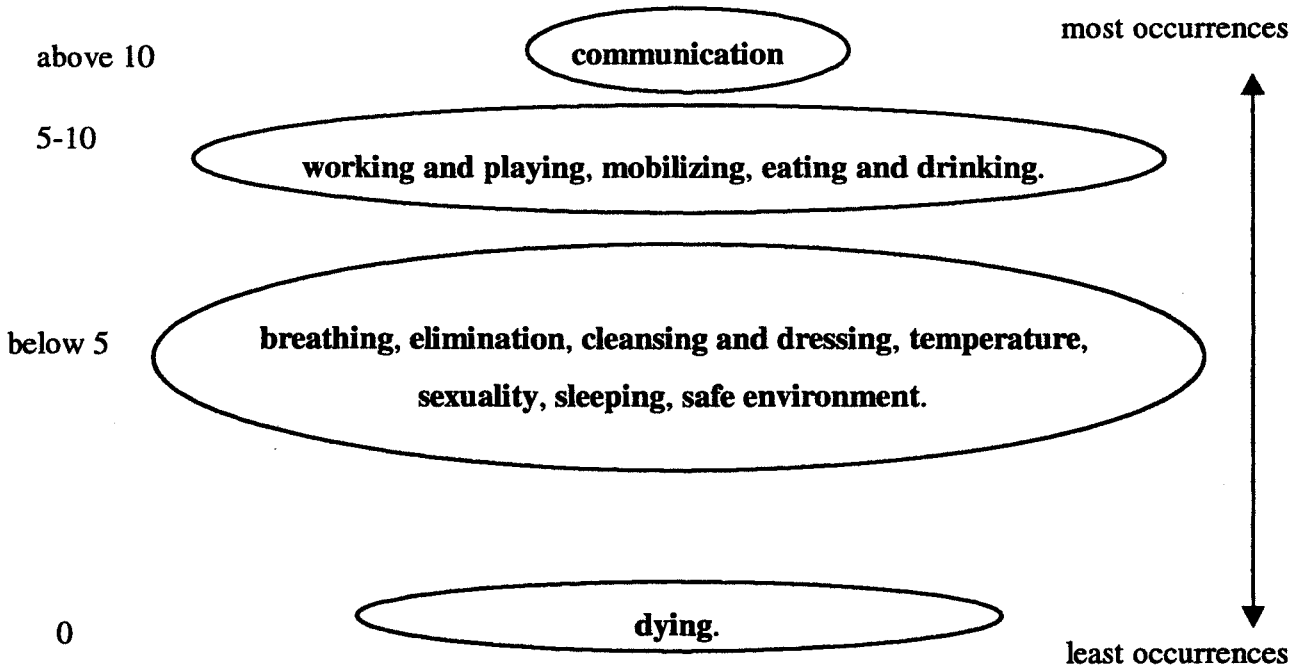


Figure 7.4. A schematic diagram of the relative occurrences of the 12 AL codes from the observations of activities on the ward.

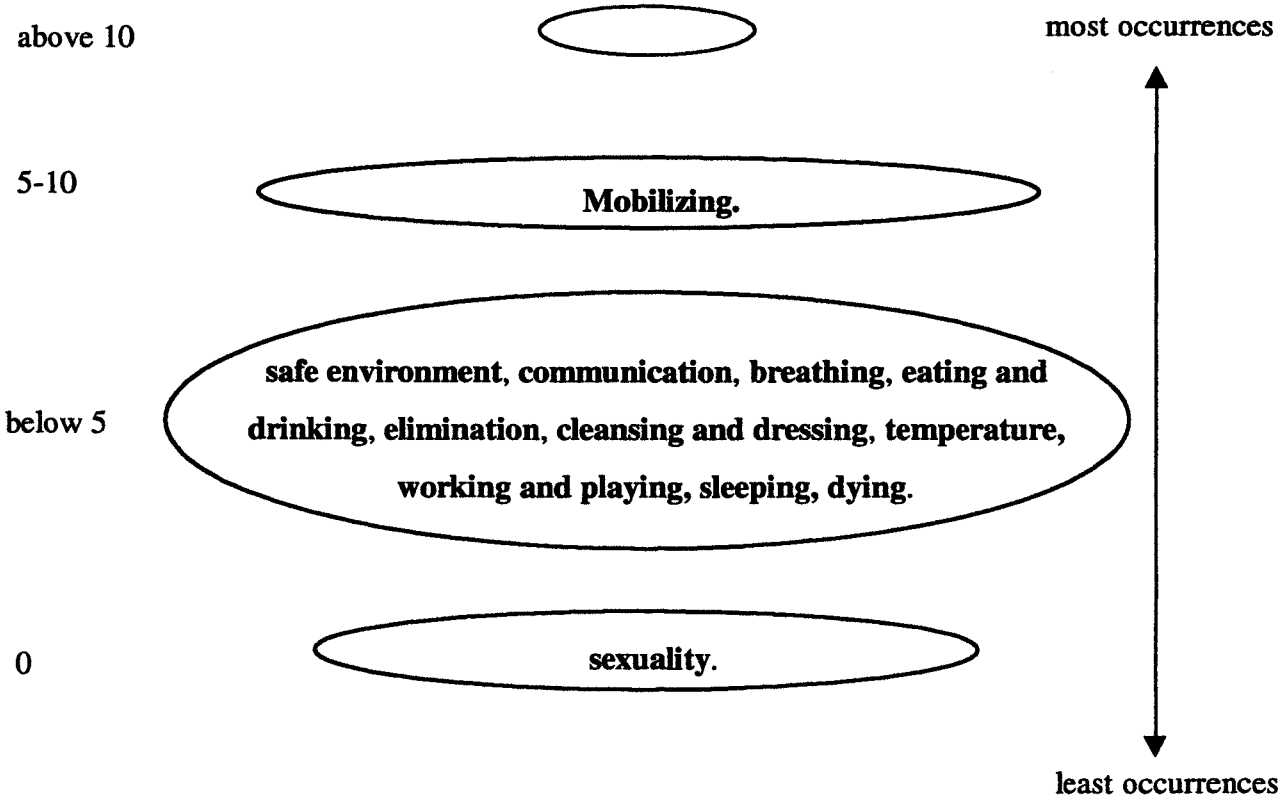


Figure 7.5. A schematic diagram of the relative occurrences of the 12 AL codes from the interviews of activities on the ward.

In figure 7.5 the interviews were represented. Only **mobilizing** was identified above five text units per 100. In figure 7.6, representing the care plans, four of the ALs i.e., **safe environment, communication, elimination** and **mobilizing** featured the most. **Sexuality** and **dying** occurred in the care plans at zero, indicating that these are not reflected in care by staff on orthopaedic wards. In all three diagrams it could be seen that it was the zero to five level that had the majority of ALs grouped together. This suggested that the Roper, Logan and Tierney model was being used and that it identified common needs of both patients and staff, but also showed that the Roper, Logan and Tierney model was used in collaboration with or superseded by alternative needs that were set by the staff and patients themselves. These manifested themselves in the not in model codes.

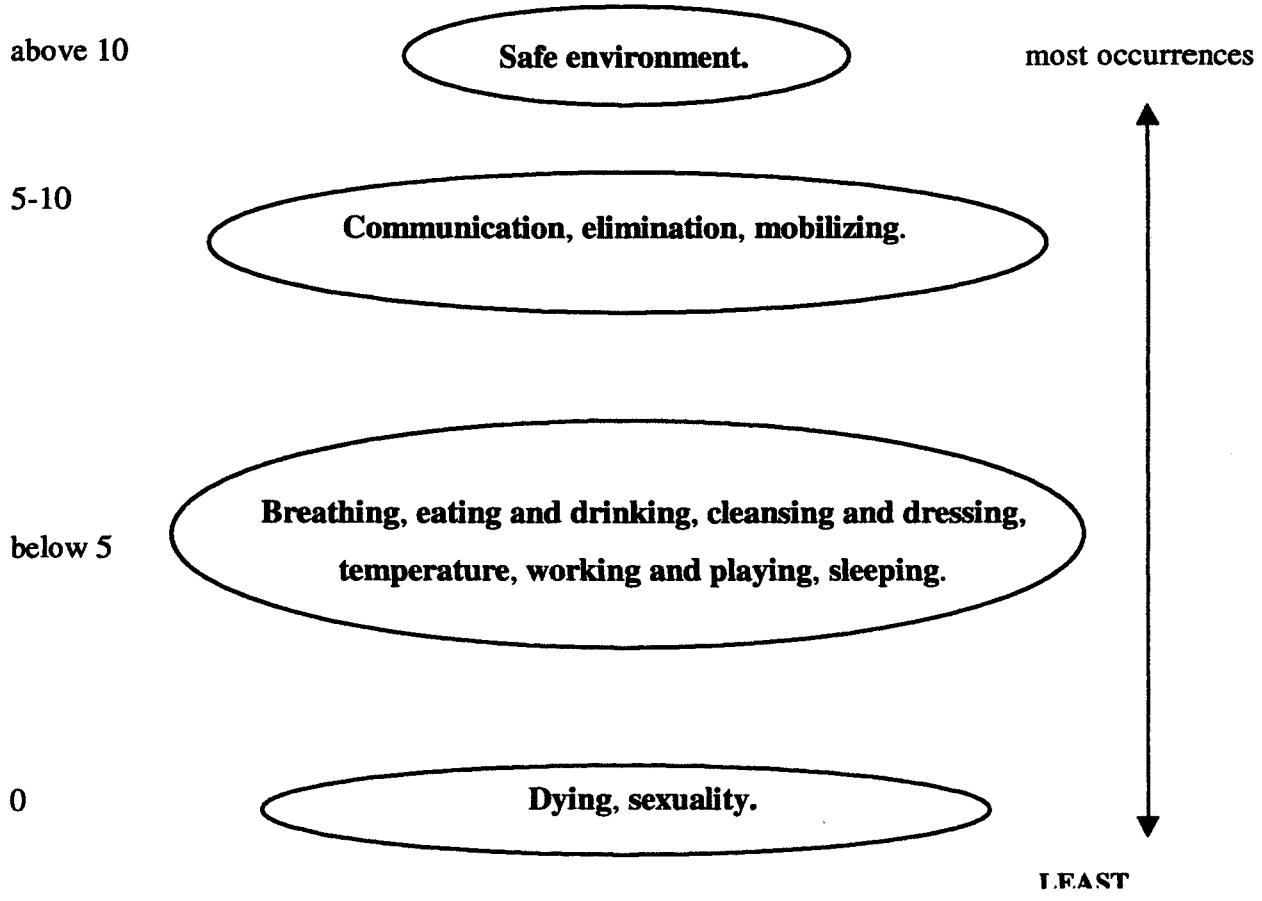


Figure 7.6 A schematic diagram of the relative occurrences of the 12 AL codes from the care plans, of activities on the ward.

The Not In Model Codes. (NIM)

The following section examines how the NIM codes occurred throughout the three data types. For reference each code has been defined in appendix 6. These are presented starting with the codes that occurred most frequently and were perceived as significant to staff, patients and relatives, then going on to the lesser used codes, and showing some of the areas where false finds occurred and finally those codes that were not used.

The Pain code

The first of these was the code *pain.* Staff frequently referred to this code in the care plans. This need had implications that affected all other aspects of care identified in the model. The *pain* code occurred frequently in the planning and giving of care and was addressed in the assessment at several points and at every shift change: For example in the assessments

"General condition: On arrival looks well, but has sharp pain on movement, appears settled." *Pain.*

And

"Pain: In moderate pain on admission. Pain scale explained and understood at level 3. Morphine given with good effect. Normally in no pain takes occasional paracetamol for headaches." *Pain.*

In the evaluation:

"Analgesia given with good effect"

and

"Still having pain with regular co-proxamol, to be reviewed by doctor." *Pain.*

In the care plans the code *pain* was well represented by staff at eleven per 100 text units and occurred equally in the other two at three per 100 text units. Obviously pain relief is a most important aspect of care, and how it is controlled is carefully documented.

"Anaesthetist has now seen Bob and prescribed regular codeine. Bob is to have analgesia overnight as required. Patient controlled analgesia remains in place until tomorrow morning to see if oral analgesia is sufficient." *Pain.*

Although *pain* was seen in the observation graph and identified by patients in the interviews it occurred much lower than would be indicated by the staff's continual references to it in the care

plans. This was possibly due to the patients' pain being well controlled by staff. These results show that although *pain* was not clearly identified in the model, it represented a significant need that was identified by patients and staff, essential to planning and giving care that was not directly shown up by the model.

The Staff Code

The *staff* code had a high occurrence in all three data types. The highest is 11 text unit per 100 in the care plans and interviews. On examination of the text units in the interviews labelled with this code they were influenced by a large number of false finds. The word "staff" was used frequently in the interview questions and these were being counted as a code in the computer search. This could be avoided in the future by ensuring the code name was not used generally in the text. In the care plans the code *staff* represented communication between the staff, which was identified as a need for smooth care for the patient. An example of this was

"Wound to be re-dressed tomorrow." *staff*

and

"Mother present on admission, will visit in the morning. Assessment to be completed then." *staff.*

The code was identified outside the model and used in the care plans to ensure all personnel were fully informed of the patient's needs. Elements of this code were similar to aspects of the communication code where staff communicated with each other.

Discharge code

Another code that was used outside the model was the *discharge* code. It occurred in all three graphs. The highest find in the care plans reflected the staff's aim to co-ordinate discharges home or to arrange transfers

"Mobilizing independently from bed to toilet with zimmer frame. Can go home when safe with a six week appointment." **Mobilizing**, *discharge.*

And

"To be dressed tomorrow before discharge, to arrange district nurse to check dressing, and sutures to be removed at out patient's appointment." *Discharge, staff, teamwork.*

This code reflected the need of the staff to organize and plan for the patients going home, or the withdrawal of care.

The identified *discharge* and *teamwork* code, created a conceptual problem, as they did not represent a single need or problem; but a nurse orientated series of needs to be met to deliver smooth care before discharge. Therefore, when compared in data displays they will not be equal with the other codes. However, they remain valuable as connections to other codes.

Teamwork code

Developed from the interviews the code *teamwork* came through strongly in all three graphs (fig 7.1, 7.2 and 7.3). At above five, its rating suggests its relevancy to all. The frequency of the *teamwork* code reflected this, how it occurred in care e.g.

"Seen by consultant, to work with physiotherapist and start mobilizing touch toe, gentle weight bearing, observations more stable, to have X-ray, repeat bloods and commence on digoxin." *Staff,* **safe**, *teamwork.*

The Skin, Circulation and Infection codes.

In the care plans *skin*, *circulation* and *infection* codes were all included under the code **safe.** As this category is so large and significant for the well being of the patient, the **safe** code has been broken down into four sub codes. These are **safe**, *skin*, *circulation* and *infection. Skin, circulation* and *infection* codes occurred frequently in the care plans but less often in the interviews and observations. This mirrored the attention and time paid to the categories by the staff. Some text examples from the care plans follows.

"No change in deficit. Still tingling in both feet." **Safe**, *circulation.*

And

"Plaster applied to Lt foot, No deficit." *Staff,* **safe**, *circulation.*

And

"Areas intact." **Safe**, *repeat, skin.*

And

"Pressure areas intact, Waterlow score reviewed." **Safe**, *documentation, skin.*

And

"To have mid stream urine sent tomorrow as urine appears infected." **Eliminating,** *teamwork, infection.*

And

"Redivac drain removed total blood loss 50 mls wound redressed with primapore aseptically, clean and free from signs of infection". *Staff, infection.*

These examples illustrate how the codes were being applied in the care plans. These NIM codes represent the codes that were most frequently used by staff to organize care. The following NIM codes were found less frequently.

Experience and reminiscence code

Experience and reminiscence occurred equally in all three graphs (fig 7.1, 7.2, 7.3), in both the observations and interviews and at one per 100 text unit in the care plans. This code represented patient and staff past experiences e.g.

"I've been to Turkey, Isle of Mann. We went to York and couldn't get in, so we turned off to the seaside. I can't remember where." *Experience and reminiscence.*

In the care plans this code only occurred in the assessment section and was not found in the evaluation section e.g.

"Relevant medical history: 1930 diagnosed polio, weak right arm, diabetic since 1994 has sugar free diet only, takes medication for hypertension, has a painful back." *Experience and reminiscence.*

Experience and *reminiscence* are clearly useful and important in the initial assessment stage, but were seldom used in the daily evaluations of staff. There was little evidence that the experiences, other than previous medical conditions, were built into the daily care, or that they were developed into shared aims or goals.

The Feel code

The code *feel* was present in all three graphs. It had similar occurrences in the observations and care plans. In the patients' interviews it came out at nine per 100 text unit. This suggested that how the patients were made to feel by the staff and the environment of the ward had an influence on their perception of care e.g.

Pt "Sometimes they just make you feel you are not alone and all that, joking on with you and what have you, pause, which helps, you know."

Or

Pt "The only other thing I would say is the doctor. If they would speak to you, rather than about you, as if you were not there, cause that's how I felt, I did."

In the care plans the *feel* code was found less frequently and in the evaluation it referred to what the staff thought the patient had experienced e.g.

"Discharge today at twelve. Did not require any medication, as had own at home, family happy with all care and plans". *Feel, discharge.*

And

"Walked with one physiotherapist to windows. No complaints of pain, although Bob has said he feels off colour." *Pain, feel,* **mobilizing**

Staff seemed to interpret the *feel* code as how the patient felt physically rather than emotionally. The patients identified it as a need, with equal emphasis on emotional and physical need, but it was not used to any extent in the planning and giving of care. The perception of how the patient is feeling and patient satisfaction with care may be influenced by how staff acknowledge the feelings of the patient.

The Worry code

The *worry* code was identified in the observations and interviews by patients but was absent from the care plans. However, staff had identified an anxiety problem, which was similar to the *worry* code in each care plan. This was coded under the feel code, establishing a link between the *worry* and *feel* code.

The Information giving, control, orientation and documentation codes

The code *information giving* was represented in all three graphs. It was identified in the observations and by the patients in the interviews. Although present in the care plans it was found less than in the other two, suggesting that it was not documented by staff.

The *control* code occurred equally in the care plans and interviews at four text units per 100, and in the observations graph at seven text unit per 100, suggesting that the giving of control occurred relatively frequently on the ward. *Orientation* was represented at four in the observation and at two in the other graphs, indicating that it was observable in daily care and identified by patients, but not frequently reflected by the staff in the care plans.

The *documentation* code occurred in the observation at two text unit per 100 and in the care plans at three per 100 text unit. In the patient interviews the code was barely identified suggesting

that the patients did not view care plans as their concern. However, they were aware that the code could potentially be a vast source of information with a bearing on their present and future care, keeping them both informed and up to date and if desired, contribute to decisions about care. This corresponded with ideas of improving patient information and satisfaction. All of these codes were similar to the communication code, in that they represented communication and could be described under this title. These codes, however, were kept separate to allow the identification of these issues and how they occurred and influenced care.

Not In Model Codes that Occurred Infrequently in the Data.

Spiritual code

The last group of these developed NIM codes that was identified in all three groups included *spiritual.* The code *spiritual* was identified at the interview stage, where it was mentioned by patients. It had similar occurrences in all three graphs, between one and two text unit per 100. The spiritual code was used only in the assessment part of the care plan as follows:

"Religion: Church of England". *Spiritual.*

And

"Religious practices patient wishes to observe whilst in hospital: Would like to see the chaplain. Attends church at least once a week." *Spiritual, control.*

So the spiritual code was identified as a need in the care plans assessment, but no reference in the daily evaluations was found in this sample. This finding may have been different if any of the patients had been dying.

The Practical code

This code was attached to text where maintaining care was carried out e.g. resiting venflons and replacing catheters. The *practical* code did not occur in the observation and was low in the interviews and care plans, showing that it was of little use to patients and staff. Appendix 10 (Table A10.1) identified the rest of the NIM codes that were not found in the care plans. These codes were seen in the observations and identified by the patients in the interviews, and could not be discarded without consideration.

The Patient seeking and bored codes

Both *patient seeking* and *bored* codes were most numerous in the observation graph. It registered at four text units per 100 but less than two in the interviews and was absent from the care plans.

This indicates that they occurred on the ward were identified by patients but not identified as significant to care, nor were they included in the staff care plans.

The Relative and Visitor, Relative Information and Visitor and Relative Information Codes

The *relative and visitor* code was present at four per 100 text units in the observation graph but was absent and infrequently used in the care plans and interviews respectively. This suggests that relatives had some input into care that could be observed, but not recognized by patients, and staff in the care plans. Relatives or significant others were possibly an untapped resource by staff on the wards. Coupled with this was the occurrence of the code *relative information* in the observation. This occurred low at one per 100 text unit, barely registered in the interview graph and absent from the care plans completely. This supported the suggestion that relatives could be more informed and could make a greater contribution to patients.

The code *visitor and relative information* represented the visitor or relative requesting information about the patient from staff or the patient. This was similar to the *relative information* code representing the other side of the same coin. The *visitor relative information* code had a low occurrence in the observation at two per 100 text unit and was completely absent in the interviews and care plans, linking it with the other two codes *relative information* and *relative and visitor.* So the *visitor and relative information, relative information* and *relative and visitor* codes were all representing similar issues, and could be grouped as one code.

The Patient's code

Another aspect that appeared to have some bearing on patient well being and care, was the support given to patients by other patients. This was evident from the observations and is represented by the code *patients*. This code occurred at five per 100 text unit in the observation graph. The code however, was absent from the care plans and not formally identified by staff as a factor that could influence patient satisfaction with care. In the interviews the patients themselves identified it, but only at less than one per 100 text unit. Although patients and staff did not seem to fully recognize the effect of other patients, the observations showed that it was occurring on the ward and was valued by the patients. e.g.

Pt1 "You are very quiet."

Pt2 "Yes I am a bit tired."

Pt1 "You will not be lonely long. They will fill the bed sharp eh (speaks to relative quietly) Well bye for now I hope you get home soon."
Pt2 "Yes all the best, bye (once pt1 has gone) Yes I will miss her."
Here is an example from the interviews:
Pt "Oh yes there has been another nice lady, another patient just like her. She was very good to me. She used to do me dinner cards and all that. They were excellent to me. I liked her. She was a fantastic lovely person." *Patients,* **eating and drinking,** *feel.*

Quick, Confidence and Friendly codes
Three codes identified in the interviews (*quick, confidence and friendly*) were completely absent from the observational and care plan graphs, which suggested that these did not occur in care, although clearly identified as important to patients. That is not to say that staff were unfriendly or not confident with patients, just that these needs were not noted in the care plans. The comfort code was also introduced at this stage, but had a low occurrence in all the graphs.

The Staff / Patient and Observation codes
The *staff patient* and *observation* codes identified in the observations were only present in the observations and were absent from the care plans and interviews. These needs were not identified by the patients or staff and therefore were not perceived as significant to care in orthopaedics.

Comment on Nil, Repeat, Aware and No code.
These four codes were separated from the others as they recorded comments about the structure of the data rather than needs being identified. They will be addressed in chapter 9.

Summary of Emerging Codes.

Figures 7.4 (observations), 7.5 (interviews), and 7.6 (care plans) reflected which parts of the model each data type revealed as influencing care. From this sample, the model seems not to be used to any great extent, where care was focused on the other six activities of living (**safe environment, communication, elimination, mobilizing, working and playing, eating and drinking**). Figure 7.1, 7.2 and 7.3 and the discussion of the NIM codes and how they are occurring, show that some of the NIM codes identified, played as significant a role in the care of patients as the activities of living. These are identified as *pain, staff, teamwork, discharge, skin,*

circulation, feelings, information giving, control, observation and *patients.* The other NIM codes, like the six remaining ALs, occurred less in the planning and carrying out of care in the orthopaedic environment as identified by the patients and staff.

Conclusion

This chapter has presented the occurrence of the codes across the three data types, observations, interviews and care plan analysis. Each code was discussed with examples and reference to how it occurred in each data type. It is found that the model codes are different in the data from the RLT model. Comparisons are made across the data types and results noted. The twelve ALs are then summarized, establishing that they are occurring at different frequencies in the different data type, representing different perspectives of care. The NIM codes are then considered, establishing that these occur as frequently and in some cases more so, than the ALs code.

When applying codes to text units' more than one code could frequently be applied as has already been mentioned in chapter six. This highlighted the relationships existing between the codes. Using the Nudist software to count the single occurring codes and by discarding the false finds manually, the number of single codes occurring in each data type was obtained. This left 5759 text units multiple coded and 2912 singularly coded. This indicated that the relationship between the ALs and the NIM codes overlapped, as many codes were applicable to the same piece of text. To establish the relationship between the codes and how they related to each other in an orthopaedic environment, the overlap between these codes needed to be examined. Chapter eight represents the continuing analysis of the single and multiple text units.

CHAPTER EIGHT

Exploratory Diagramming

Introduction

This chapter explores an alternative way to look at the data, by examining the text units (TU) as single and multiple codes. The single codes represent a single issue raised in the text unit and multiple coded text represent several codes. As raised in chapter seven, a large section of the data was multiple coded, and therefore important to examine these for possible relationships between the codes. This alters the arrangement of the analysis to explore the grouping of codes.

The idea of data display is important in qualitative research. Typically, qualitative researchers present analysis in an extended form, using examples of text. Miles and Huberman (1994) describe these as a cumbersome form of display and when presented in isolation can be difficult. Comparing long bulky texts carefully is very difficult.

Displays, in a visual format, present the information in a condensed way, helping the reader to see where conclusions are drawn. Displays also support analysis as they are focused enough to view large amounts of data in the same location. They stimulate the drawing and verifying of conclusions, as the display enables the comparison of similarities and differences, or help to identify themes or patterns (Miles and Huberman 1994).

Singularly Coded Text.

A singularly coded text unit, as discussed in chapter six, is defined as a text unit (TU) that has been labelled with one code. This could be a Not in Model code (NIM) or a model code (AL). A multiple code, is defined as a text unit with more than one code attached. These can also be an AL or NIM codes. Multiple codes are addressed later in this chapter. When attaching codes to the text units the needs expressed within the text dictated whether one or several codes were attached. The singularly coded text unit represented text where one need was being expressed, which could then be encapsulated by a single code. For example from the care plans:

"Bob continues to perform ankle exercises and has been encouraged to exercise the ankle on his own. He still cannot manage a ninety-degree bend. For below knee plaster tomorrow if reaching ninety."

This was given the code **mobilizing**. Of the total text units in the study 2912 text unit remained coded with only one of the forty-four codes. Figure 8.1, 8.2 and 8.3 are bar and pie charts that represent the distribution of single and multiple coding in each of the data types. In all three charts the single coded text units were fewer than the multiple coded text units. This imbalance of single and multiple coding seemed to be significant, as the greater amount of coding showed the complexity of the needs being expressed and met. The bar charts focused on the single codes, showing how they were distributed in each data type. It could be seen that the majority of activities carried out on the ward cannot be compartmentalized easily into the Roper, Logan and Tierney model alone. Other issues identified by the patients and staff have to be considered.

Each singularly coded text unit represented a single need that was identified or being fulfilled by staff. By looking at these sections of text the way the model was being used could be examined, and needs outside the model could be identified.

The Care plans: Figure 8.1

The pie chart of figure 8.1 showed that the ratio between single and multiple coded text units in the care plans was very similar. Staff who composed the written care plans tended to sharply define what they recorded. The structure of the care plans in this study have been addressed in chapter 5. On examining bar chart 8.1 there was a concentration of single codes that were part of the model. This showed that staff were using the model. The chart, however, also showed clearly that staff complemented the model with other needs that could not easily be incorporated into the model. These codes are found in appendix table 11.1, with examples of text. The singularly identified NIM codes in the care plans indicated that staff saw them as necessary. As they did not fit easily into the model, they needed separate identification, as they represented the needs of the patients and staff in orthopaedics that were not addressed by the model.

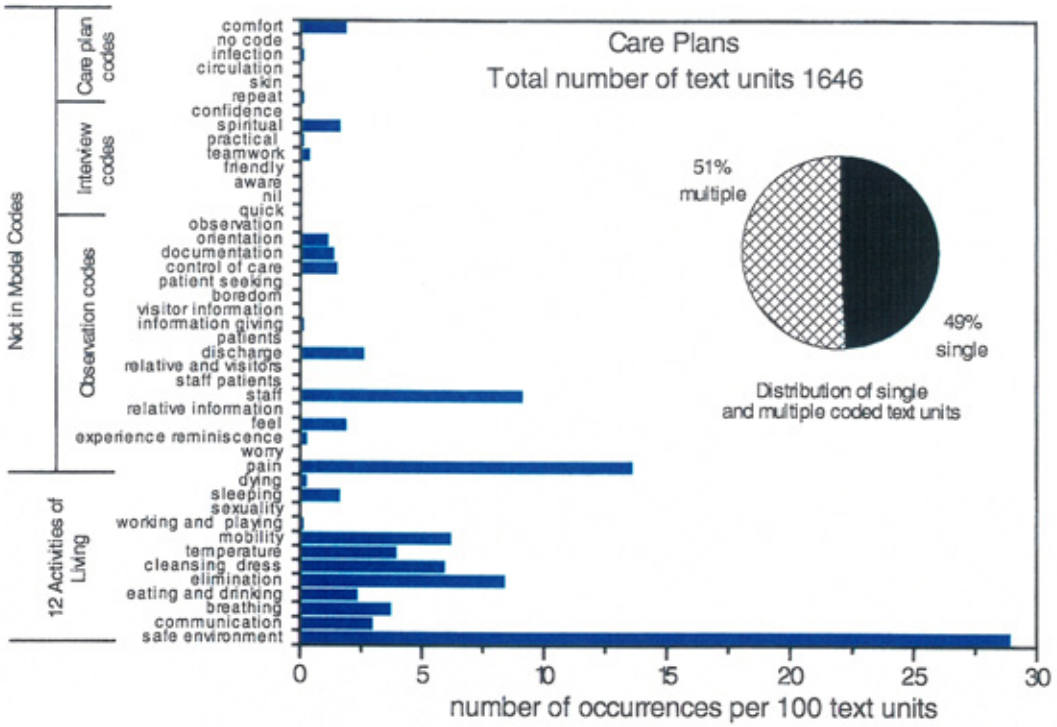


Figure 8.1 The distribution of single and multiple codes in the care plans.

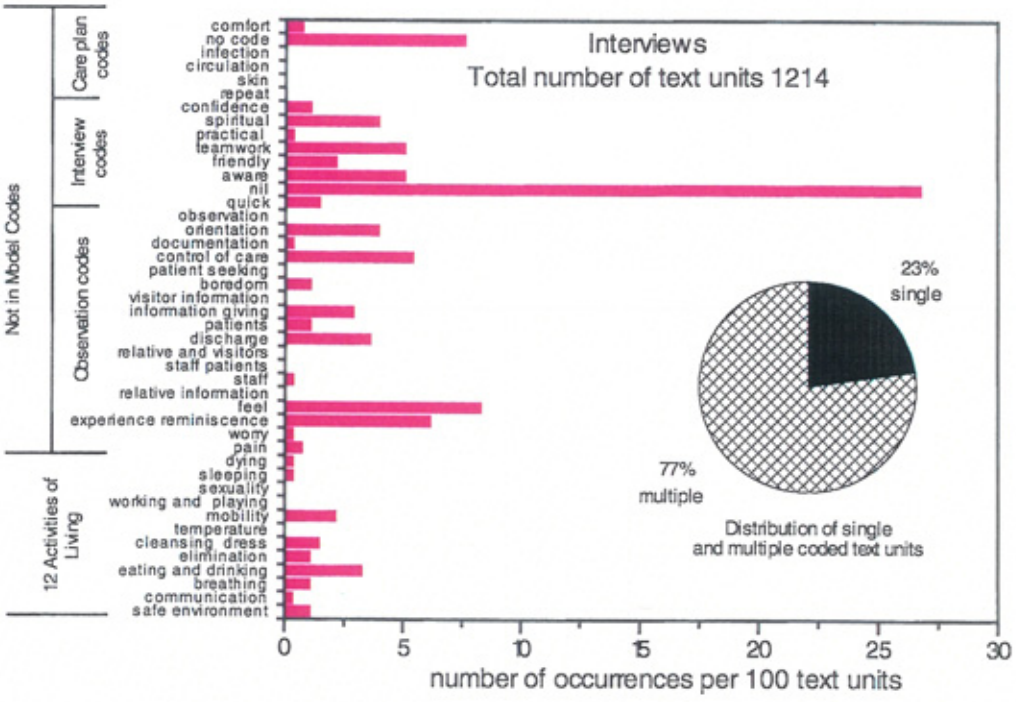


Figure 8.2 The distribution of single and multiple codes in the interviews.

The Interviews: Figure 8.2

These graphs, which were complied from the interviews, and represented the patients' viewpoint, were very different from those obtained from the other types of data. In the bar graph (8.2 the interviews) the *nil* code was most striking as the largest find. This code was attached to text where the patient did not seem to understand or could not answer the questions for example:

R "OK have you ever met the physiotherapist at all?"

Pt "Who err?"

R "The physiotherapist, in a white top and blue trousers. Could have been a man or a lady?"

Pt "Oh I don't know."

R "Do you know who I mean?"

Pt "No I don't know."

R "What do you think the physiotherapist would do if you met one?"

Pt "Eh I couldn't tell you."

The patient interviews contained a large number of the *nil* code. This suggested that either the patients had no contact with the staff in question or that the patient had met them but had been unaware of the different staff roles and presumed that they were all nurses of some description.

The second surprising result in the bar graph (fig 8.2) was the relatively high occurrence of *no code*. On examination of the text units attached to this code it was similar to that of the *nil* code, where patients answers were uncertain.

R "So what kind of things does the nurse do for you?"

Pt "Naw heck everything man."

R "What kind of things can you think of? Anything that they do for you?"

Pt "Just everything man."

So the *nil* and *no code* were attached to similar text in the interviews, where *nil* expressed openness by the patient that they were unsure of the question and *no code* marked text units with no other codes attached. This was an opportunity for merging the codes as discussed earlier in chapter six.

Sexuality, working and playing and **temperature** codes were not identified in the interview data. **Mobilizing** with **eating and drinking** were the two most frequently occurring ALs that were identified by the patients. This suggests that patients are concerned with the mechanics of

eating. Most of the patients were aware of the necessity to eat well and that the quality and variety of food mattered to them. As this was an orthopaedic ward it was obvious that mobility would matter to the patients. This figure showed that the patients had identified other issues outside the model. Examples of these can be found in the table A11.2. The code *documentation* was included in the table, however on examining the text, all the finds of this code were found to be false, an example is also included in table A11.2

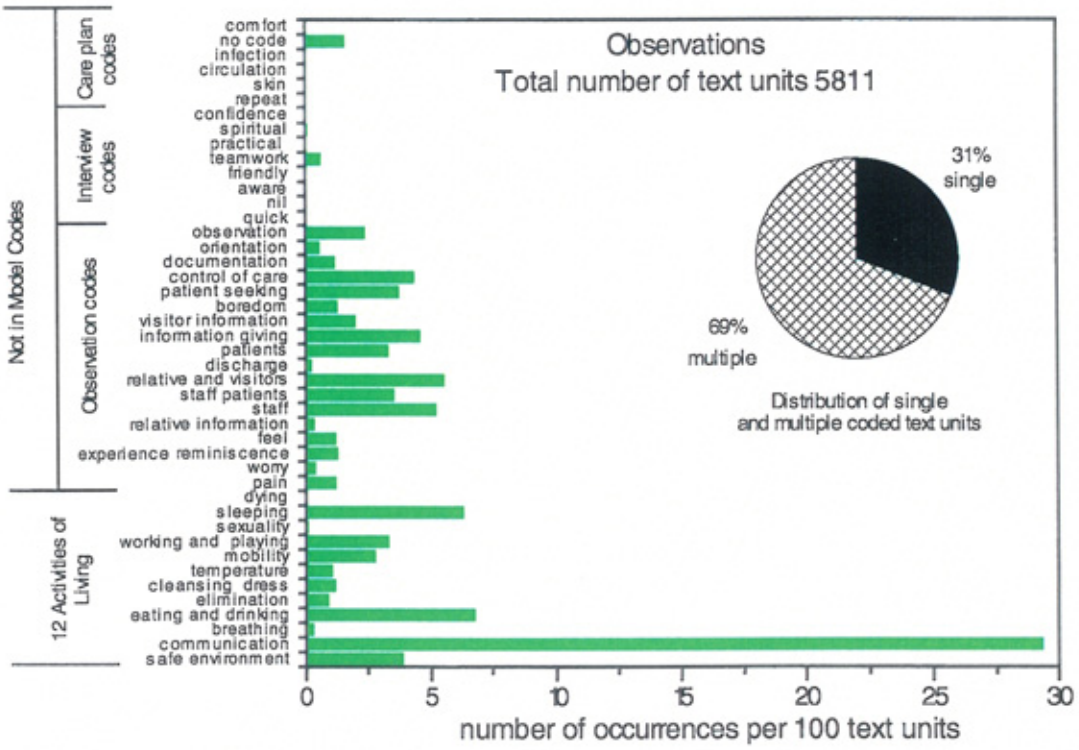


Figure 8.3. The distribution of single and multiple codes in the observations

The Observations: Figure 8.3

The bar chart in figure 8.3, represent the occurrence of singularly coded text units in the observations that reflect the daily reality of care being given on the orthopaedic ward. The care plan and interview codes had not been identified except for *teamwork* and *no code*. The observation codes were all identified and two of the AL codes were omitted. These were **sexuality** and **dying**. The **communication** code was the most numerous, possibly due to the nature of the data collection. Much of the conversation recorded during observation at first appeared to have no relevance or purpose to nursing care e.g.

Sn "I feel like I am saying a prayer down here, like this." laughs

Husband "After thirty years you will be like this." reads the newspaper again.
As expected this type of communication occupied a significant amount of time on the ward and formed part of establishing relationships between patients, staff and relatives as they interacted continuously, maintaining and forming relationships with each other.

The spread of single code occurrences over the observation codes, again showed that daily there were issues occurring in the orthopaedic ward environment that were not easily addressed by the model. The staff continued to deal with the issues as they arose, by going beyond the model and being flexible enough to include some of these issues in the care plans. In doing this, the nurses were able to address any identifiable needs that occurred and include them in the care plans.

Summary

Each of the bar graphs in figures 8.1, 8.2 and 8.3 represented the codes differently. A comparison of these charts identified the frequently occurring single codes. The bar graphs (8.1, 8.2, 8.3) compiled from the single coded text units, show clearly the NIM codes that the model does not address. The relevance of these results is that it shows the 12 ALs are not the only focus of care but other issues are contributing significantly to care. This adaptation of the 12 ALs reflects how practice is influencing the model. Other research supports this, Reed and Robbins (1991) in their study exploring the RLT model show that it is not the ALs that are central to care but social status, role and needs for respect and recognition.

The Complexity of care: The Multiple Coded Text.

In figures 8.1, 8.2 and 8.3 the pie charts show that the data mostly comprised of multiple coded text. This reflected the complexity of care given by staff to patients and the complexity of placing each text within a particular code. For example from the interviews:
Pt "The nurses have definitely been emptying my bed pans (laughs) I know that, and well I can't think now, err making me bed up, shaking the pillows, taking me temperature, putting needles in me arm, giving me pills. What else? Just making me generally comfortable really."
This was given the codes **eliminating**, *comfort*, **temperature**, *pain* and **safe**.

An example from the care plans:

"Back slab remains in position, no neuro-vascular defects found. Has been referred to the physiotherapist."
This was given the codes **mobilizing, safe** and *teamwork.* In this way the multiple coding represents the issues being identified within the text unit.

In order to explore how the model was reflected in the multiple coded text units the relationship between the codes and any patterns formed must be examined. Appendix 8, table 8.1 shows how the ALs were found together in text examples. On looking at the table Appendix 8.1, the interview and care plan columns had several codes that had no double coding. On examination of the singular codes, bar graphs 8.1 and 8.2 those that had low occurrences **dying, sexuality, working and playing** were found; also the interviews and care plans have no occurrence of double coding. This reinforces the idea that in the orthopaedic environment these ALs remained little used even in collaboration with other codes.

The **cleansing and dressing** code, which had no double coding with the other ALs in the care plans, had a relatively high occurrence in the singularly coded bar graph (fig 8.1 care plans), suggesting that this idea was clearly perceived by staff and used to plan and report on care given. The multiple coded text units had not yet been examined; these represented a significant amount of the data and therefore must be considered.

How the Activities of Living codes occurred together

The first group of multiple codes considered was how the ALs occurred with other ALs across all methods, observations, interviews and care plans. The ALs codes represented the model, and were found to occur together in some 724 text units. That is, from 5759 text unit (the total double coded text unit in the project) 724 were multiple coded with ALs. Appendix 8 table 8.1 shows how the codes related to each other with the number of times they occurred together. The table helped to analyze the codes and draw conclusions about how the codes occurred together. Pairs of codes could only be drawn from this table, although many other relationships between the codes existed. The bold codes represented pairs of codes that occurred across all three data types.

There were nine of these **safe environment & communication, safe environment & eating drinking, safe environment & mobilizing, safe environment & temperature, safe**

environment & eliminating, breathing & mobilizing and, **eating and drinking & elimination, temperature & eating and drinking, temperature & elimination.** These pairs of activity of living codes were identified in each of the three groups (observations, interviews and care plans). In the observation column of table 8.1 in appendix 8 the codes were occurring in greater numbers. This was due to the length and amount of the observational data rather than the significance of the codes occurring together, as these numbers had not normalized per 100 text unit (discussed in chapter 7).

The possibility of merging ALs was examined. Figure 8.4 illustrates the visual representation of the relationship between the ALs, the overlap represents multiple coding. These figures 8.4, 8.5 and 8.6 were developed from the tables in Appendix 8, showing those codes that were multiple coded through all three methods. Although there was a complex intertwining and an overlap existing between these ALs codes, none of the codes could be completely merged. The ALs absent from the care plans (**sexuality, dying**) did not merge with another AL.

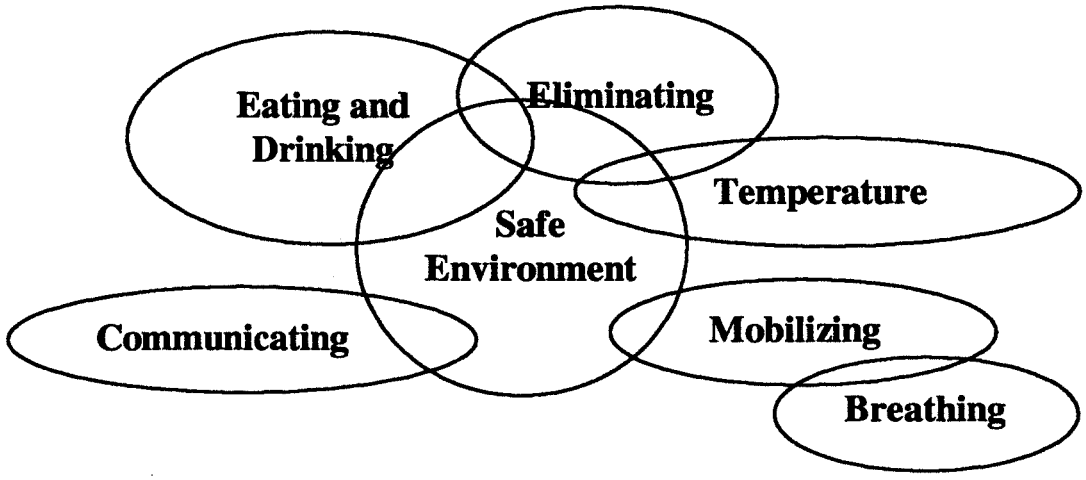


Figure 8.4 Summary of multiple coded ALs that occurred through all 3 data types and how they related (developed from Appendix 8 table 8.1)

The NIM and Activity of Living Codes. (Table A8.2 in appendix 8)

The second group of patterns of codes was that of the ALs and not in model codes (NIM) and how they occurred together. The total number of text units that contained multiple coding with an AL and a NIM code, was 2919 text unit from 5759 text units multiple coded in the study. These were represented in table Appendix 8.2. Once again a number of pairs of codes were common across all three data types. In the care plan column there were no multiple codes with **sexuality,**

sleeping and **dying** suggesting that staff did not identify these problems at that particular time. This is reflected and supported in the single codes where sexuality and dying occur infrequently.

It is important to establish if there are any strong links between these codes, as there may have been an opportunity to extend an AL or create a new code by combining two or three codes that occurred frequently. On examining table A8.2 there were some examples of pairs of codes that occurred across all three data types:
Safe environment and *teamwork*, **communication** and *teamwork*, **communication** and *discharge*, **eating & drinking** and *feel*, **elimination** and *teamwork*, **elimination** and *control*, **mobility** and *pain*, **mobility** and *discharge*, **working & playing** and *bored.*

These links are represented in figure 8.4, 8.5 and 8.6 and suggest that there are elements of the NIM codes associated with the ALs, but they are not complete links, that is one did not always occur with the other. As can be seen from these results certain codes frequently occur together, showing that they were related, however the relationship was not strong enough for them to be merged.

The NIM Codes that Occurred Together. (Tables A8.3 and A8.4 in appendix 8)

The last group of codes, the NIM codes, and how they occurred with each other, can be seen in table A8.3 and A8.4 in Appendix 8. There were fourteen multiple codes that occurred together throughout all three data types represented in figure 8.6. There were a number of "no finds" in the interviews and care plan columns, that is, codes were searched for in the data but did not occur. The interview column, representing the patient's perception of care, has five codes that were not found in the data. These were *staff and patients,* where staff and patients ask each other about care, *patients,* where patients interact together, *visitor and relative information,* where visitors or relatives ask information from staff, *observation,* where patients are watching staff and *circulation.* The care plans column had seventeen codes with no multiple finds. These were: *worry, relative information, relative and visitor, staff patients, patients, visitor information, bored, patient seeking, observation, quick, nil, aware, friendly, confidence, circulation, no code* and *comfort* (appendix 6 details the code definitions). The observation column had five codes that were not found. All these codes had no double coding with the NIM codes, showing that these issues were not reflected in the care plans in association with other NIM codes.

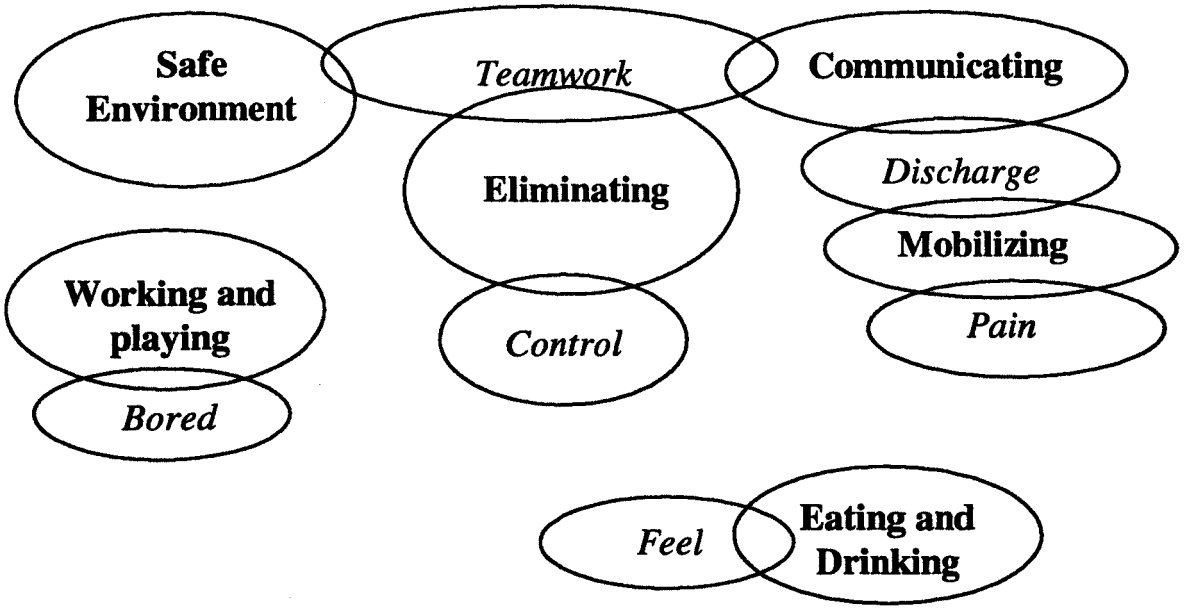


Figure 8.5 Summary of multiple codes, ALs and NIM codes occurring in all three data types and how they relate to each other in orthopaedics (developed from Appendix 8 table 8.2).

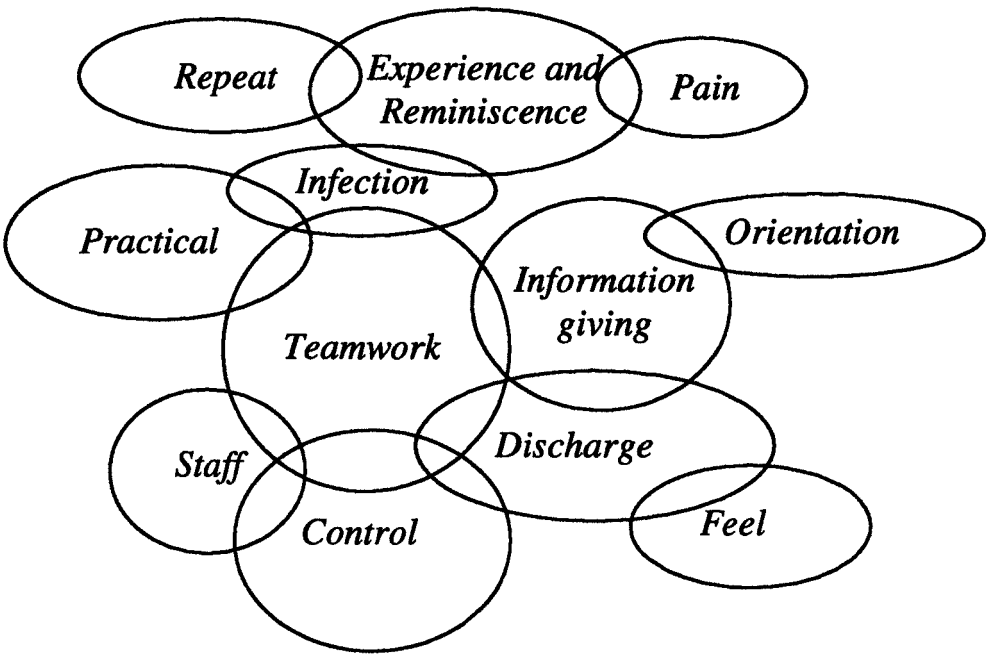


Figure 8.6 Summary of the NIM codes occurring in all three data types and how they relate to each other in orthopaedics (developed from tables A8.3 and A8.4).

Two of the above codes *no code* and *patients,* were not found to be multiple coded. They were found singularly coded in the observations and interviews respectively. The *no code,* marked text

units that had no codes attached and as such showed that not all the observations were fully coded. The *patients'* code represented text units where the patients supported each other and interacted together. As this code has been identified as a single code in the interviews, it implies that the patients on interview saw interaction with other patients as an important part of their stay in hospital.

Value of the Care plans

The results from the study of the care plans proved their worth. The aim and primary function of the RLT model is to enable staff to use their training and knowledge to identify each patient's specific needs and to plan the appropriate care. It acts as a tool and a record for the staff.

In some cases the patient's ideas and wishes can be incorporated into care plans; However, for the duration of the study, patients seemed to want to leave their care and goal setting to the staff. There was no evidence of patients or relatives actively contributing to the care plans, other than to exchange and give information.

As the care plans represent a version of care given to patients, the model is reflected in the care plans, and show how staff were using it. Similarly other issues reflected in the care plans and not identified in the model, show where the staff had identified needs that were significant to patients, but have been omitted from the model. Staff are adapting the model to meet their perceived needs of care for patients. Staff, giving care in an environment with a given set of resources, must plan and prioritize care to ensure the most important identified needs are met. Wimpenny (1999) describes three models perceived by practitioners: the mental model that is held internally by the nurse, the theoretical model, as exposed by the theorist, and the surrogate model, that which is used to guide nursing practice, operationalized and made visible through the nursing care plan. Therefore, the care plans offer insight into how the RLT model is reflected in the orthopaedic setting.

Comparing the tables in appendix 8, it was not surprising that the care plans were more focused than the observations and interviews. The staff have a guiding role when planning care for orthopaedic patients. Table 10.1 in appendix 10 lists all the codes, single and multiple found in the care plans, plus those that are not included.

The codes not found in the care plans are not irrelevant, but rather are inappropriate from the staff's perspective in the orthopaedic setting, unless the patient has a specific problem in that area. The twenty-two codes found in the care plans, including some from the model were related to each other in many complex patterns as can be seen in tables 8.2, 8.3 and appendix 8.4. in appendix 8.

Care Plan Codes and the Roper, Logan and Tierney Model: How They Relate.

To explore how the model was reflected in the orthopaedic setting the codes presented in the care plans were linked to the twelve core concepts of the model, and their relationships were examined. Figure 8.7 illustrates the codes found in the care plans and how they occurred with the ALs. This identifies how the NIM codes occur in the care plans with the model. Figure 8.7 was developed from table 8.2 in appendix 8, using the care plan column. The code *repeat* was not included in figure 8.7 as it reflected a comment on the characteristics of the way different codes occurred in the care plans, rather than a need. In figure 8.7 **sexuality**, **sleeping** and **dying** had no multiple codes in the care plans, therefore no related codes. Figure 8.7 represents the main issues in the care plans being focused on by staff on the orthopaedic ward.

Some of the codes represented a conceptual problem, *discharge* and *teamwork*. These were not strictly a problem or need code, but could be interpreted as a service process. However, on coding the text, the *discharge* code represented the identified needs to be met before going home, and the *teamwork* code identified staff involving other staff, to meet the needs of patients. These issues are significant and influence practice. It is therefore legitimate to include them when considering the codes.

This chapter has explored the Roper, Logan and Tierney model through the single and multiple coded text units in each data type (8.1, 8.2, 8.3). Also it has identified how the NIM codes occur with the model in the care plans as shown in figure 8.7.

Conclusions: First Stage

The aim of this study was to explore how the Roper, Logan and Tierney model influenced care in the orthopaedic environment, highlighting which sections of the model were being used and how difficulties were overcome.

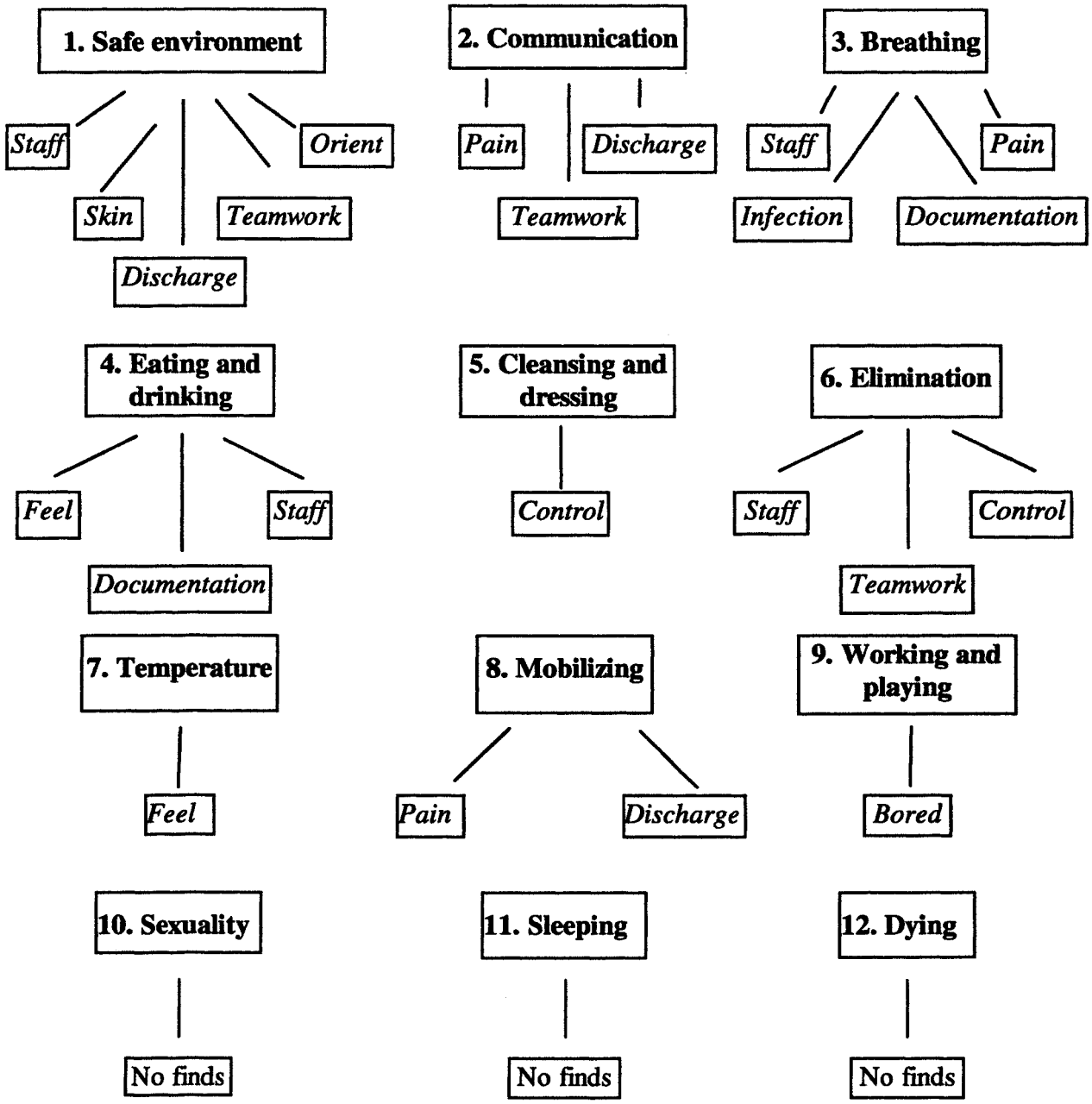


Figure 8.7 Shows how the codes occur together between the twelve activities of living and NIM codes found in the care plans. Developed from Appendix 8, table 8.2 using the care plan data.

The results identified which core parts of the model were used and gave evidence of the daily use of these ALs. The following ALs from the model, were found to occur frequently (**safe environment, communication, elimination, mobilizing, working and playing, eating and drinking**). The results indicated where the model was not used (**sexuality** and **dying**). Deficiencies in the RLT model were also picked up. These were filled by staff, who having identified other issues, used the NIM codes to meet the needs of patients.

This descriptive data showed that some of the NIM codes, played as significant a role in care as the ALs. These were *pain, staff, teamwork, discharge, skin, circulation, feel, information giving, control,* and *patients*. The other NIM codes, like the six remaining ALs, played a lesser role in the planning and execution of care in the orthopaedic environment.

On examination of the care plans most of the ALs could be identified in the assessment, and the nursing process could be seen clearly in the evaluation records. Both actual and potential problems were being identified. However, care was not always patient centred, and little evidence of patients being consulted or involved with setting goals, was found. In addition to this there was significant comment in the patient interviews that patients did not wish to be involved in decisions about care and they preferred to leave this to staff.

Of the five factors influencing the ALs as discussed in chapter three, the biological was dominant. Physical aspects of care were given prominence in the assessment and evaluations, but there was little or no reference to the other four (psychological, sociocultural, environmental and politicoeconomic). The result from the care plans indicated that three parts of the model (life span continuum, independence continuum and factors influencing the activities of living) were little used and not as the model advocated.

The existence of other issues, needs and problems outside of the model boundaries, provides evidence that the RLT model does not encapsulate the whole role of the nurse and patient in the orthopaedic setting. These results showed that in some instances the NIM codes had equal if not greater relevance to care as the ALs identified by the model e.g. *pain and information giving*. The single and multiple coding of the twelve ALs show the complexity of care and the relationships

between the codes in orthopaedics. These offered an opportunity to explore further how other issues are incorporated into care along side the model and how they were managed.

Data Display: conclusion drawing

Miles and Huberman (1994) linked three sub-processes, data reduction, data display and conclusion drawing in qualitative research, as described in chapter six. The results were used in displays and diagrams to facilitate the exploration of the codes and how they were related. This enabled the visualization and trying out of links between codes. Emerging ideas were refined and perhaps more importantly, the probing of elements that were indistinct, was achieved and clarified. Examples of these are seen in figure 8.1, 8.2, 8.3, 8.4, 8.5, 8.6 and 8.7. These diagram attempts were thought to be lacking in representation of what was occurring in care. They did not reflect the relationship across all three data types. An alternative structure, to examine the whole data, allowing tentative development of theory from the descriptive results was sought.

After examining the care plans it became evident that the plan for care, as documented by staff, not only included problems, but also a mix of issues, wants, needs, service codes and physical phenomena. Staff appeared to have the flexibility to document and plan for individual issues not necessarily present in the model, or couched in the negative terms of problems to be solved. It was noted that staff documented certain issues of care first. They prioritized problems, needs and other issues in the care plan. This prompted a comparison of the care plan indexes, which showed that certain identified needs were appearing in the care plans in a similar order, (as influenced by the nurses writing the care plans as described in chapter six) and a pattern seemed to be emerging. An example of this is shown in appendix 12.

The analysis, identified the main issues raised in the orthopaedic environment and showed how the model reflected and influenced care, but gave little insight into how care was being structured. The relationship between the RLT model and the NIM codes, in association with the patient's and staff's perception of their goals of care, also remained unclear. Further analysis was required to identify these issues from the complex soup of data. As an exploratory strategy and a method of data reduction, a hierarchical framework was used to view and pull together all the data.

Frequency of the Codes and Significance to Care.

The idea of priority in care has been raised by the data in the care plan indexes and was also presented by Maslow (1971) in his hierarchy of needs. The relationship existing between the frequency of occurrence of the codes in the data and the significance to care is not one of direct priority. This was evident from the data in the following ways.

In the observational data each text unit represented an event of care and the codes attached to the TU reflected what was occurring in that event. In this way the occurrence of the codes does reflect actual time spent on these coded issues, which could vary. Since the time period for each coded TU was not recorded, conclusions correlating to time spent on care cannot be drawn. The number of occurrences, in the type of data, does give insight into how and which care needs were being met.

The patient interviews identified the patients' perspective of care and what they thought the main issues of care were. The interviews reflect how the patients consider care and identify issues that they are prepared to verbalize. As such they are legitimate and assume a usefulness to care giving. It is important to note here, that they also may omit or avoid certain issues of care that cause embarrassment for example, incontinence. The care plans were created as records of what the staff perceived as important to care for each patient, and to ensure the smooth running of the ward from shift to shift.

If a code occurs frequently it does not necessarily mean that it is of more importance than something that occurs only once. It does, however, indicate that the code occupies a certain significance. This does not directly relate to its priority in care, that is, it does not indicate that the more a code occurs the more important it is to care. However, examining how the code is found in the data, and with the attached text, its significance to care can be explored. During their stay in hospital, patients and staff employ more time raising or carrying out certain matters than others according to the frequency of the codes. These then assume a legitimate relevancy to care. This is by no means an absolute indicator of importance to care but it identifies issues that are relevant to care, that make up much of what occurred on a daily basis. The problems, needs and other issues identified inductively from the codes are the interactions between the nurse and patient. The figures of frequency hierarchies (chapter 9) can be used to act as guides to analyze the three data

types, allowing conclusions to be drawn about care from the actual occurrence of the codes in the data across the three data types, rather than the interpretation of themes of codes alone. Table 8.1 outlines the analysis of themes using this concept and illustrates the process or data reduction, data display and drawing conclusions, identifying the actions used to accomplish this for the reader. Appendix 13 shows how the themes were developed from the codes already identified, providing an audit trail through the frequency hierarchies used to identify themes from the data.

Table 8.1 shows the analysis process used to identify the emerging themes. An example of analysis from the coding to the developing themes is seen in appendix 13. Table 8.1 together with appendix 13 represents evidence of an audit trail in keeping with Guba and Lincoln (1994). It is difficult to represent the process of developing themes in such a linear fashion when in reality it is an iterative cycle. However, this shows how the themes were developed.

Maslow's Hierarchy

Maslow's hierarchy of needs (1971) (chapter two) was tried as a framework. This framework was chosen because it was holistic and could incorporate the data of needs, wants, activities and problems, reflecting those used already in the care plans. As previously suggested by the care plan index, a hierarchical element to care was emerging and this seemed to fit with the data, as the different levels corresponded to frequency in care. Using this framework and focusing on the different viewpoints the staff and patient's view of care emerged. Analysis, using a hierarchical framework to draw together the data, would allow the patient's perception of care to be revealed, and also shows a version of the staff's emerging view of care. These could then be compared. The disparities and similarities between the patient's and staff's perceived needs of care would be revealed. This gave an impression of how care was structured and how the RLT model of care (1996) influenced care. The possession of these properties provided a case for the use of an adaptation of Maslow's framework.

Table 8.1 A representation of the analysis process.

Analysis stage	Actions
1. Catching the phenomenon	a. Collecting the data through the observations, interviews and care plans. b. Re-reading and transcribing the data. c. Transferring text onto computer, adding comments and impressions.
2. Inductive interpretation	a. Splitting text into text units. b. Twelve Activities of Living applied to the text, coding sections of text. c. Identifying codes inductively from the data and developing them to reflect the meaning in the text unit
3. Exploration through reflection and refining codes	a. Checking of codes and definitions through b. Iterative coding, refining code definitions and fit. Developing codes further, merging, grouping of codes retaining audit trail
4. Comparison of frequency hierarchies: A tool of analysis	a. Identify by relationship between codes and comparison of hierarchies. b. Returning to original text to review meaning and confirm themes.
5. Construction of phenomenon of RLT in orthopaedic care	a. Care as a hierarchical framework b. Common core of issues c. RLT does not encapsulate the role of the nurse. d. Holistic care and individual care are ideals e. Patients' and staff views are different identifying the concept of partnership supported by emerging themes from the patients and staffs perspectives: Problems versus needs. Patient involvement versus passive patient. Physical versus psychological. Future versus past.

A Tool for Further Analysis: A Frequency Hierarchy.

The results so far indicated that although the RLT model had much to commend it, there were some deficiencies, in that not all the problems identified by the model could encompass patients' and staff needs. The framework of analysis in the next stage of the study concentrates on discovering the needs central to the patient, and staff, and how the model is reflected in practice.

This was achieved by using a hierarchy framework, and by applying this framework to the data, to show the different relationships between the identified needs of the patients, staff and the model.

Maslow's framework prioritized needs required to reach a higher level of self-fulfilment. The results in this study focused on the patient and staff needs and the model, which is patient centred. I used a hierarchical framework, as suggested by Maslow's work. However, Maslow's five categories and the idea of one level being completed before moving to the next, were discarded and replaced by the issues, activities and needs identified as they occurred in the data. This became a frequency hierarchy indicating the relative significance of the needs of care as they emerged in the orthopaedic environment. The hierarchy also enabled the data to be explored to identify similarities and differences between the RLT model (1996) and the view of the patients and staff.

Conclusion

This chapter has discussed the significance of single and multiple coding to the exploration of the RLT model in orthopaedics. Several presentations of data display were explored to help draw conclusions. Frequency hierarchies are proposed as a method for further analysis to explore the RLT model and single and multiple codes. The next chapter re-organizes the data in the terms of frequency hierarchies from which the themes are drawn.

CHAPTER NINE

Frequency Hierarchies.

Introduction.

Chapter seven presented the results, when sections of text had been coded to draw together the same or similar issues. Data reduction and display in chapter 8 investigated the codes and how they occurred together, using visual data displays. This gave an outline of what was occurring in practice showing how the model influenced care. Further analysis was required to explore the emerging themes (Miles and Huberman 1994).

This chapter examines the relationship between the codes and the data from the observations, interviews and care plans. A hierarchy framework is used as a means of displaying the codes. The use of a hierarchy enables the single and complex multiple coded data to be examined more clearly than the methods in chapter eight.

The results are presented in three parts, the presentation of the data as a whole, the staff and patients' perspective, and then the perspective of the long and short stay patients. The first figures 9.1, 9.2, 9.3, were created by using all the codes that were ordered by their occurrence in the data. This gives an overview of the data, which included the twelve activities of livings (ALs) and the Not in Model codes (NIM). The relationship between the ALs and the identified NIM codes, were represented, and shows that the needs outside the model were incorporated into care by the nurses, alongside the Roper, Logan and Tierney model (RLT).

In the second part the results (figure 9.4) are focused on the identified needs of the patients, using data from the patient interviews. These were compared to the prioritized needs of the staff as set out in the care plans, (figure 9.5, 9.6). The differences between the nurses' documenting, the patient needs and the patients' perceptions of their needs, are uncovered, and show where they share common aims and also areas where they differ (figure 9.7, 9.8, 9.9).

The final part presents the dissimilar needs of patients with varying trajectories, and interprets in a frequency hierarchy the data from the twenty-two long stay patients and the fourteen short stay patients. This was important, as it identified another area where the RLT model may be used differently. It revealed how the perceptions and requirements of patients and staff differed, between the long and short stay patients. These results showed how the RLT model was used in care and how staff incorporated their own mental models into care to overcome any shortcomings.

Occurrence and Priority: The Relationship.

The relationship between occurrence and priority, as described in chapter 7 is not a direct one. If a code occurs frequently it does not necessarily mean that it is of more importance than one that occurs only once or twice. What should be remembered is that it indicates a significant specific need, which may be more urgent than other less frequent ones and needs to be addressed. Frequency hierarchies identify when this is occurring, enabling that part of the original data to be revisited.

The significance of Care Plans

The care plans depicted the aims and goals of care for the patients as seen by the staff. It is feasible that in some cases the patients' own ideas could be incorporated into the care plans. However, there was little evidence from the data. The care plans represented what the staff perceived as important, and how the model was reflected in the care plans revealed how it was being used. Similarly other issues considered in the care plans that were not in the model, showed where the staff had identified needs that were necessary for patients.

Relying on the care plans the data was analysed. How the model was being represented in the care plans gave a good, although, not absolute indication, of how it was being used by staff. The care plans also describe recorded care given to patients that day, and indicates the plan for future care, through the actual and potential problems identified in them.

It is important to acknowledge, that the care plans did not necessarily represent the reality of what actually occurred in care. Just because it is written down does not mean it happens that

way. The care plans are social constructs (chapter five) and identify how staff manage care, showing what they perceived to be significant enough to record. It is this that makes the care plans important (Reed 1992).

Constructing the Frequency Hierarchies.

Figure 9.1 shows the twelve ALs in order of frequency as indicated by the data and is constructed using the results of figures 7.1 (the occurrence of the codes in the observations), 7.2 (the interviews), and 7.3 (the care plans). It represents the occurrence of the codes. Level 1 is the greatest occurrence and level four represents the least. The occurrence for each level is indicated at the side.

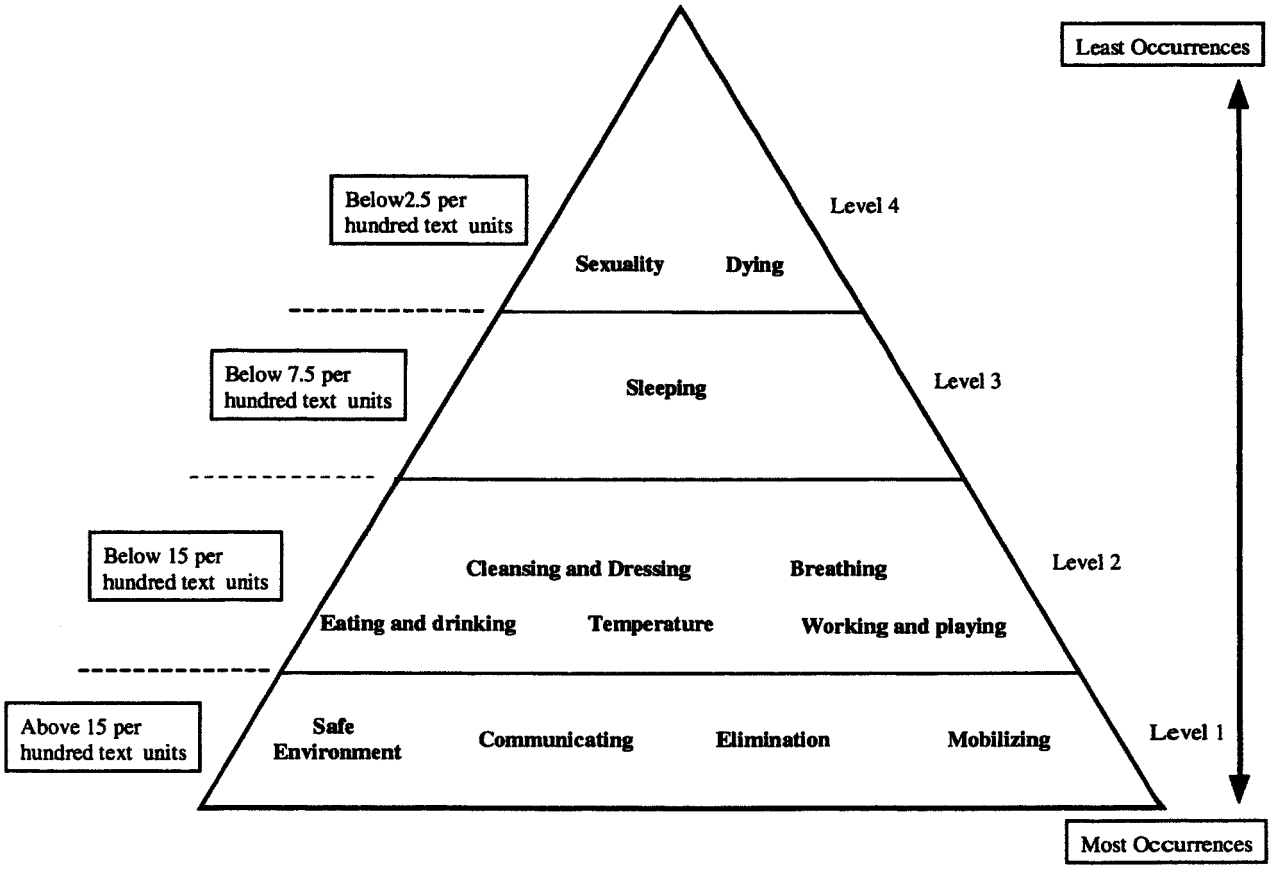


Figure 9.1 The twelve activities of living codes arranged in a frequency hierarchy.

Figure 9.1 shows how the twelve ALs occurred in the orthopaedic setting across all three data types. It comprised **safe environment, communication, elimination** and **mobilizing** (level one). These represented the main issues addressed by staff from the model when planning care in the orthopaedic environment. Level two of figure 9.1 was addressed next when planning the requisites of care. They were secondary to the four ALs in level one of the hierarchy. The other ALs **sleeping, sex** and **dying** were on levels 3 and 4 representing a lower occurrence, and are of less relevance for staff, when planning care on a day to day basis.

Figure 9.1 was drawn from graphs 7.1, 7.2 and 7.3. The over all occurrence of these codes were combined. I used the care plans as a 'touchstone' when creating the frequency hierarchies, as they directly influence care. The care plans as the social creations of the staff (chapter 5), direct and largely control care. For example, the code **elimination** was found to occur frequently in the care plans but infrequently in the observations and interviews. When the three frequencies were combined it was approaching 15 per hundred text units. However, due to its frequency in the care plans and influence on the care given, it was placed in level one.

Another example, is **safe environment.** Code occurrences were added together and found to be in the highest bracket of above 15 per 100 text units. In this manner the ALs and the NIM codes were ordered, showing how the codes occurred across the whole data. The care plan data was given increased importance in the results, as it represents the power imbalance in care, where staff focus care using their knowledge and experience and patients, arguably, experience reduced power as they enter the sick role (Bond and Bond 1994).

There are four levels in fig 9.1, where Maslow's hierarchy had five as described in chapter two. Maslow's category of levels were not adhered to as discussed in chapter eight. The occurrence of the codes did not follow Maslow's categories to the higher levels. This may be due to the fact that self-actualization, realization and expression were not observable. Maslow's framework represented a holistic view of an individual's life, where a stay in hospital is just a section of it.

Figure 9.2 shows the needs identified outside of the model (NIM) in order of occurrence as suggested by the data. The main occurrence of care in this group, on the lower two levels, are *pain, staff, discharge, teamwork,* (*skin,* and *circulation, infect*) *feel control* and *information giving*. Staff frequently addressed these areas in care, followed by level two, three and four at the top, containing the fewest occurring NIM codes in this group. Figure 9.2 was constructed using graphs 7.1, 7.2 and 7.3. It represents the frequency given to the NIM codes on the ward, by patients and staff using all the data types.

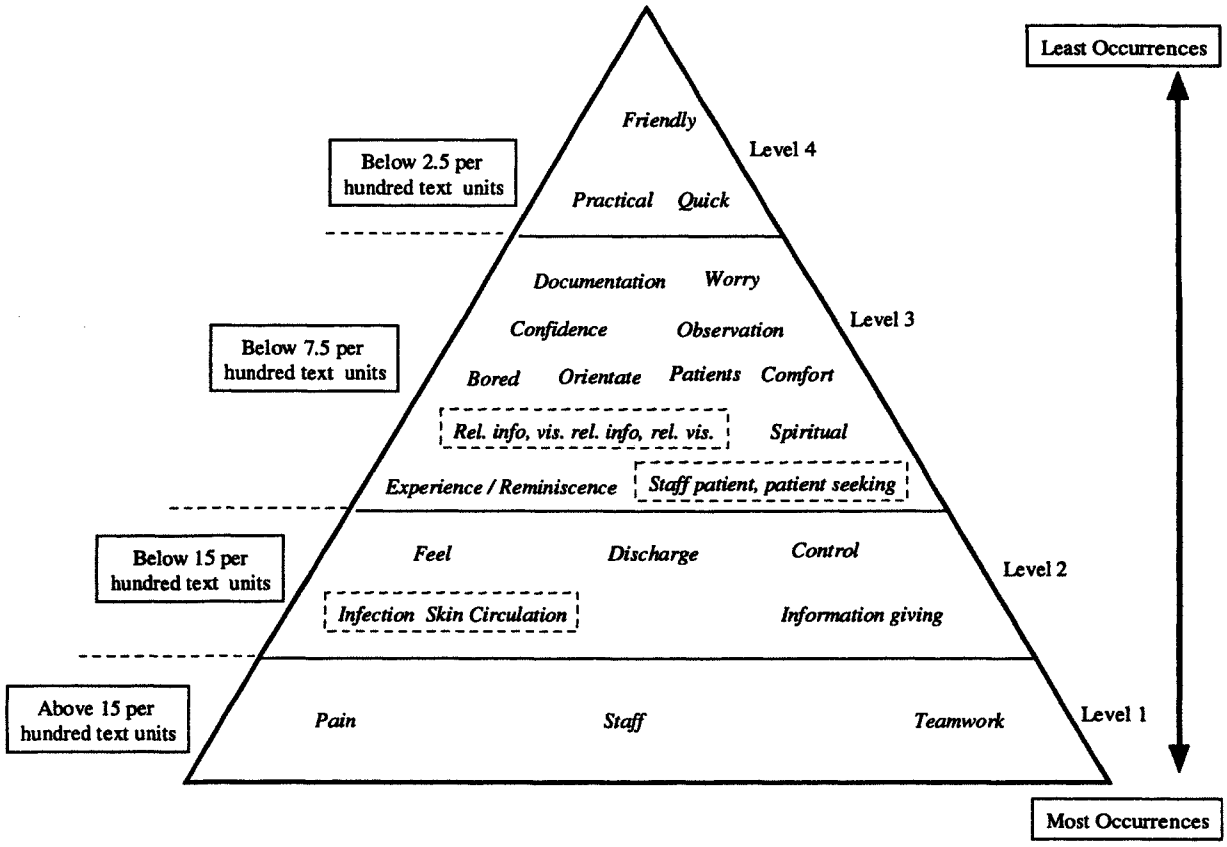


Figure 9.2 The Not In Model codes arranged in a frequency hierarchy

Rel. info. = relative information, vis. rel. info.= visitor relative information, rel. vis.= relative visitor code. Dotted box indicates where codes have been merged.

The Twelve Activities of Living and the NIM codes In a Frequency Hierarchy.

Combining these two figures (9.1 and 9.2) a complete picture of how the RLT model was used to structure care, along with the needs identified by patients and staff, can be seen in

figure 9.3. This showed how they related to each other in the orthopaedic setting. As before the codes at the base of the triangle represent the most frequently occurring issues of care set down by the patients and staff. This summarized how the model was reflected in the sample and showed the relationship between the Roper, Logan and Tierney model and the codes identified outside the model. *Nil, no code, repeat* and *aware* have been excluded from the main hierarchy in figure 9.2 as they were not identified as needs but as characteristics of the text.

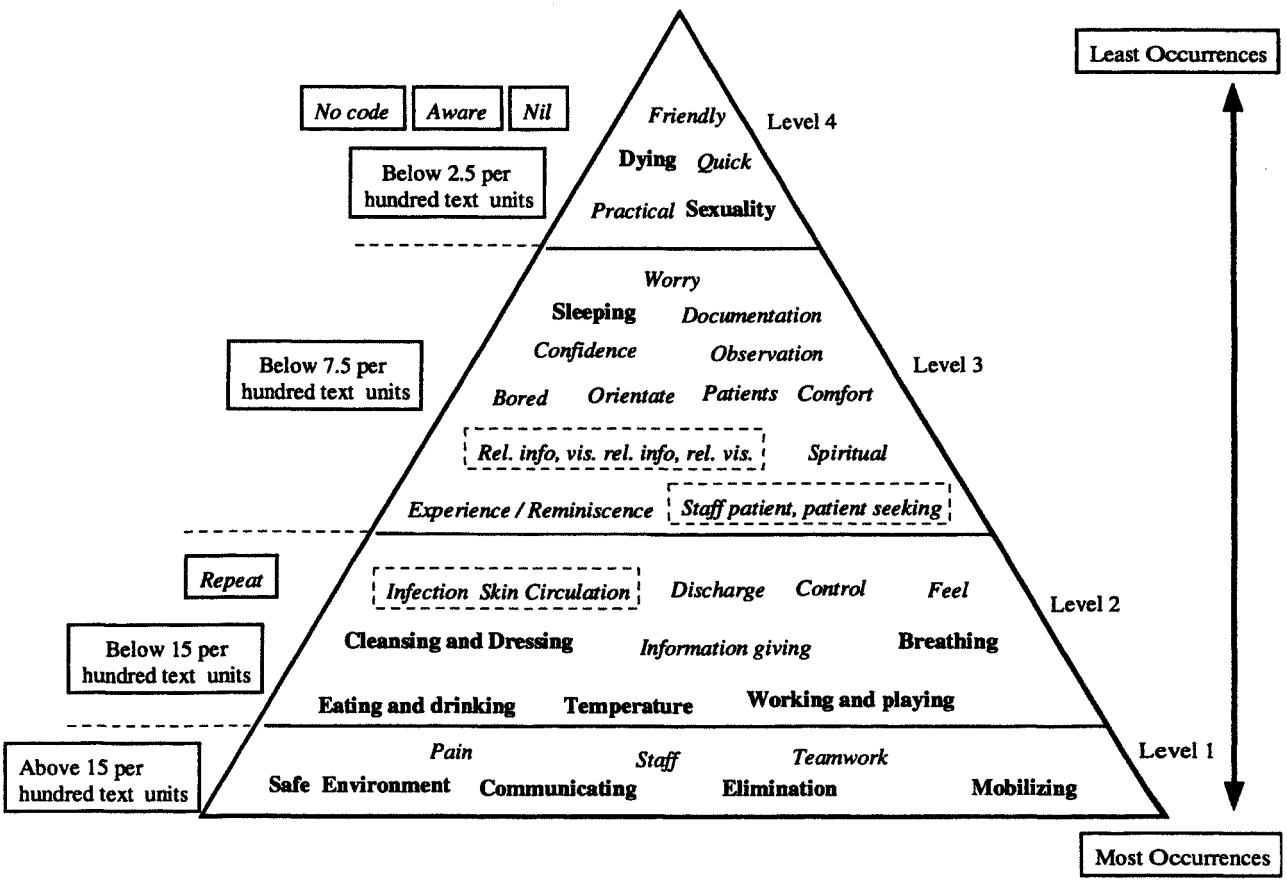


Figure 9.3 The Activities of Living and Not In Model codes grouped together in a frequency hierarchy.

Comments on the Codes Nil, Aware, Repeat and No code.

These four codes were separated from the others in figures 9.2 and 9.3 as they recorded comments about the structure of the data, rather than needs or want, being identified. The two codes *nil* and *aware* were developed from the interviews and were not found in the

observations or care plans. They portray examples of patients being apparently uninformed about care. These two codes present a slight predicament. They pinpointed examples of general vagueness by the patients, but not a need or want. As such, they proved enlightening as they showed the level of knowledge some patients had was not great, and perhaps staff could address this matter. The following examples reiterate the suggestion.

In the interviews the *nil* code occurred at seven per 100 text unit. This showed that the patients possessed varying ideas and knowledge of the ward environment and were unclear about the jobs different staff performed e.g.

Pt "Well I was just wondering what she would do, the occupational therapist. Would she help me with exercising and things?" *nil*

These codes were not accentuated in the observation or care plans. They suggested that a low level of awareness by the patient about the role that staff performed or knowledge about care, appeared not to be perceived as an issue for staff in the care plans. There was evidence in some instances that patients identified a preference not to know everything e.g.

Pt "Well they can do what they like to me I don't bother you know, I don't really want to know, cause you have to do it, you have got to fit in." *nil*

These suggested that recent trends to involve the patient as much as possible might in fact not be what all patients desire or want, all of the time. This idea was again reflected in the occurrence of the *aware* code in the interviews, three per 100 text units, where patients had a vague idea of each practitioner's role and what they were trying to achieve but not a clear idea e.g.

1. R "Have you met the house officer on the ward, or the doctor on the ward?"

Pt pause "Err Yes, I think so." *aware*

2. R "Do you think you would need to see her?" (talking about the physiotherapist)

Pt "I would imagine she would come along at sometime during my stay here. Maybe ask us a few questions." *aware*

Patients did not appear concerned about this lack of knowledge; indeed there was no necessary reason why patients should know the role of each staff member. Some patients did request more information about their future care, which they thought would have been useful on interview e.g.

Pt "Maybe a bit more information. As I say, it was the first time I have been in hospital, and I didn't know what to expect and I sort of came in, in the middle of the night and I felt down. You know and nobody sort of explained what was happening like sort of, from then I was sort of left on my own. I knew in my own mind what would happen eventually but I just felt if someone had said to us, Now look we are going to take care of you. You are going to be all right. We are going to take care of you, I would have felt better."
These two codes *nil* and *aware* would perhaps have been better described as patients possessing little knowledge about care.

The final two codes were identified at the care plan stage. The first *no code* indicated text that had been left uncoded. Surprisingly in the care plans every text unit was coded, so there was no occurrence of *no code* in the care plan graph. The observations also had a low occurrence of this code, whilst in the interviews four per 100 text units were given the no code. This, on further examination of the text, was due to the questions asked being left un-coded, giving a false higher occurrence of this code in the interviews.

The *repeat* code occurred frequently in the care plans, at seven per 100 text unit. This code was attached to text units that were the same and used the same language. That is, staff used certain key phrases to communicate the progress of the patient and these were reproduced frequently in the care plans (A9.4 shows text examples of the repeat code). Occasionally in the interviews the patients repeated what they had already said back to topics they had already raised. The *repeat* code did not register 'repeats' of the codes themselves e.g. the **sleeping** code was not coded with *repeat,* although it occurred many times in the text. This eliminated any error that may have raised the frequency of occurrence of the **sleeping** code. In the observations there was a low incidence of the *repeat* code with only one per 100 text unit. When designing care in the care plans, staff were working within a shared framework that they communicated with and understood (mental model), but that may be unapparent to others. This indicated that one aspect of the introduction of nursing models, namely a step towards professionalization, has been achieved as nurses are developing their own mental models (Wimpenny 1999).

The Patients and Staff Hierarchies: How They Were Constructed.

The results represented orthopaedic care, showing how the codes related to each other and how they were used in care giving. To show the patient and staff perspective of care the data from the care plans and the interviews were separated into their own hierarchies. The patient and staff hierarchies were constructed using the graphs already created, those being graph and pie chart 8.1 and 8.2 (care plans and interviews respectively) as well as the interview and care plan column from the display matrix (Appendix 8.1, 8.2, 8.3 and 8.4 representing the multiple codes) How they occurred across the three data types was taken into consideration. This produced two hierarchies for each group (the single and multiple hierarchy) however only one hierarchy was produced for the patient view, for reasons addressed later in this chapter. The number of occurrences from the multiple coded tables (Appendix 8) were standardized and translated into per 100 text unit. This allowed both sets of data to be transferred together into a hierarchy. The single occurring codes were already in text units per hundred. These were then placed into the frequency hierarchy. Both the single and multiple codes were used in the construction of the patients and staff hierarchy.

The Patients' View (figure 9.4)

The patients' hierarchy was created to show the patients' opinions of care. The single hierarchy (figure 9.4) was developed from the single interview graph, figure 7.8, where only the single codes were used. The single codes frequency hierarchy showed the patients' perspective, as can be seen in figure 9.4. The codes that have no finds (at the top of the hierarchy) were not verbalized by the patients' in this sample. Three of these codes belonged to the RLT model **sexuality, working and playing** and **controlling body temperature.** Level 1 of the hierarchy contained the codes where the patients past experiences of hospitals and how they felt, and were made to feel emotionally about their stay in hospital occurred e.g. whether they felt welcome anxious, at ease, or frightened. The following are examples:

Pt "Sometimes they make you feel like you are not alone and all that, joking on with you, and what have you, which helps you know...It is not great being in hospital even if it is only for a week."

Pt "I think she (occupational therapist) was surprised, I think she was thinking someone over 60 must be a little old lady that couldn't look after herself, cause all her questions were, you know. Can you dress yourself and that?"...

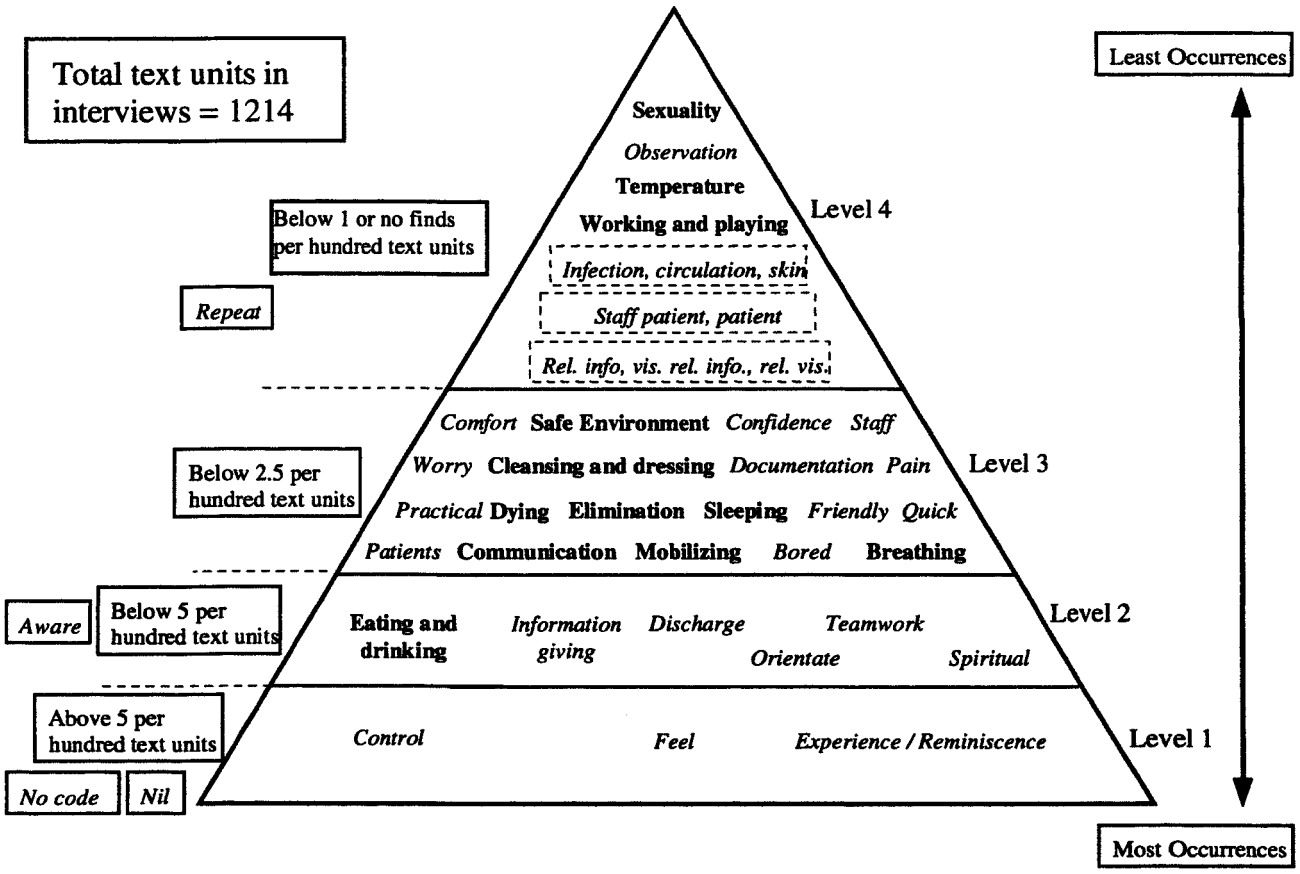


Figure 9.4 The frequency hierarchy of the activities of living and the not in model codes as developed from the patient interviews.

The multiple codes of the patient interviews were also addressed at this stage (taken from the display matrix, interview column, Appendix 8). On examination of the interview multiple codes, the occurrence of the multiple coded text units were found to be very low, the majority of the finds being below 1 per 100 text unit and only 5 pairs being above 1, but below 2 per 100 text unit. This showed that from the interviews the multiple coded text consisted of complex configurations of codes. However, these were occurring at very low levels, all of them below 2 per 100 text unit. To display these in a hierarchy would be pointless as all the codes would be in the third or fourth level and no comparisons could be drawn. The frequency hierarchy of the interviews multiple codes would be too flat to draw any conclusion.

The patients experienced many feelings including anger and frustration with staff on being in hospital or with a plan of care they did not fully understand, e.g. things did not happen quickly

enough. Also patients sometimes showed anxiety about other patients and the hospital environment. In the care plans the staff had identified an anxiety problem. This existed outside the Roper, Logan and Tierney model. Staff focused on, and formally dealt with this issue of care and the form it took. It enabled them to address the worries the patient experienced whilst in hospital.

The **control** code occurred at the base of the patients' hierarchy showing that they recognized a need to maintain some control over their care, but they did not necessarily want to take part in decisions about care. They appreciated being informed about care and liked to know who was taking the decisions and wished to maintain a sense of value and worth (not being a nuisance) e.g.

Pt "You know, no problems. Anything I have wanted, just hasn't been a problem, just been very understanding, patient and helpful...It didn't bother me much but it might bother some people, but I was always asked if it could be done, so it was OK you know."

Pt "They can do what they like with me, I don't bother you know, Well you have got to do it. You have got to fall in, I don't want to be any trouble."

From the patients' hierarchy, the ALs remained less frequently identified. This contrasted with Maslow's hierarchy, where the psychological aspects of care were identified more frequently and at level 1 of the interview hierarchy. The results could have been influenced by the staff assuming responsibility for the patients' physical needs, as we shall see in the staff hierarchy, while allowing the patient to deal with the psychological aspects.

The Staff Perspective of care (figure 9.5 multiple codes and 9.6 single codes)

Two hierarchies were constructed to represent both the single and multiple coding in the care plans. These were created from figure 8.1 and the care plan column in the display matrix (Appendix 8). Both single and multiple codes were used to compile these results. The multiple codes (figure 9.5) are addressed first. These were constructed from the care plan column in the display matrix and showed how the staff used the care plans, to record the patient issues. The codes existing at level four of the hierarchy had no multiple coding at all. These codes occurred as single codes in the data and were ordered in the staff single hierarchy (figure 9.6). Figure 9.5 represented the multiple codes relating together.

Figure 9.5 was created using the number of occurrences of the codes from the multiple code tables in appendix 8, using the care plan column in table Appendix 8.1,8.2,8.3 and 8.4. The occurrences were translated into per 100 text units, which allowed the data to be transferred together into a hierarchy. These were then placed into the frequency hierarchy.

The **safe** and *repeat* codes formed the base level of the hierarchy, figure 9.5 occurring most frequently in the care plans. The **safe environment** code was identified as significant for staff and in the care plans they used the same phrases many times over. The *repeat* code identified the repetition of these 'stock' phrases from the care plans e.g.

"Pressure areas intact"

"Apyrexial"

"Pain controlled within normal limits"

These phrases were not initiating a plan of care but were recording an acknowledged level of the state of a patient that was understood and recognized by other staff, who also recorded the state of the patient during their shift. In this way the codes could be used to protect staff from blame or responsibility, serving as proof in the event of litigation. The UKCC (1993, 1998) has published guidelines on the recording of care in nursing records.

Level two contained the pairs of codes **safe environment** and *staff*, (the *staff* code noted text units where nurses interacted together). It marked text units, where staff recorded actions that ensured the patients' safety. This showed that the nurses also used individual constructions in the care plans, when the stock phrases did not summarize what they wanted to convey as is evident from the text examples of **safe environment** and *staff*.

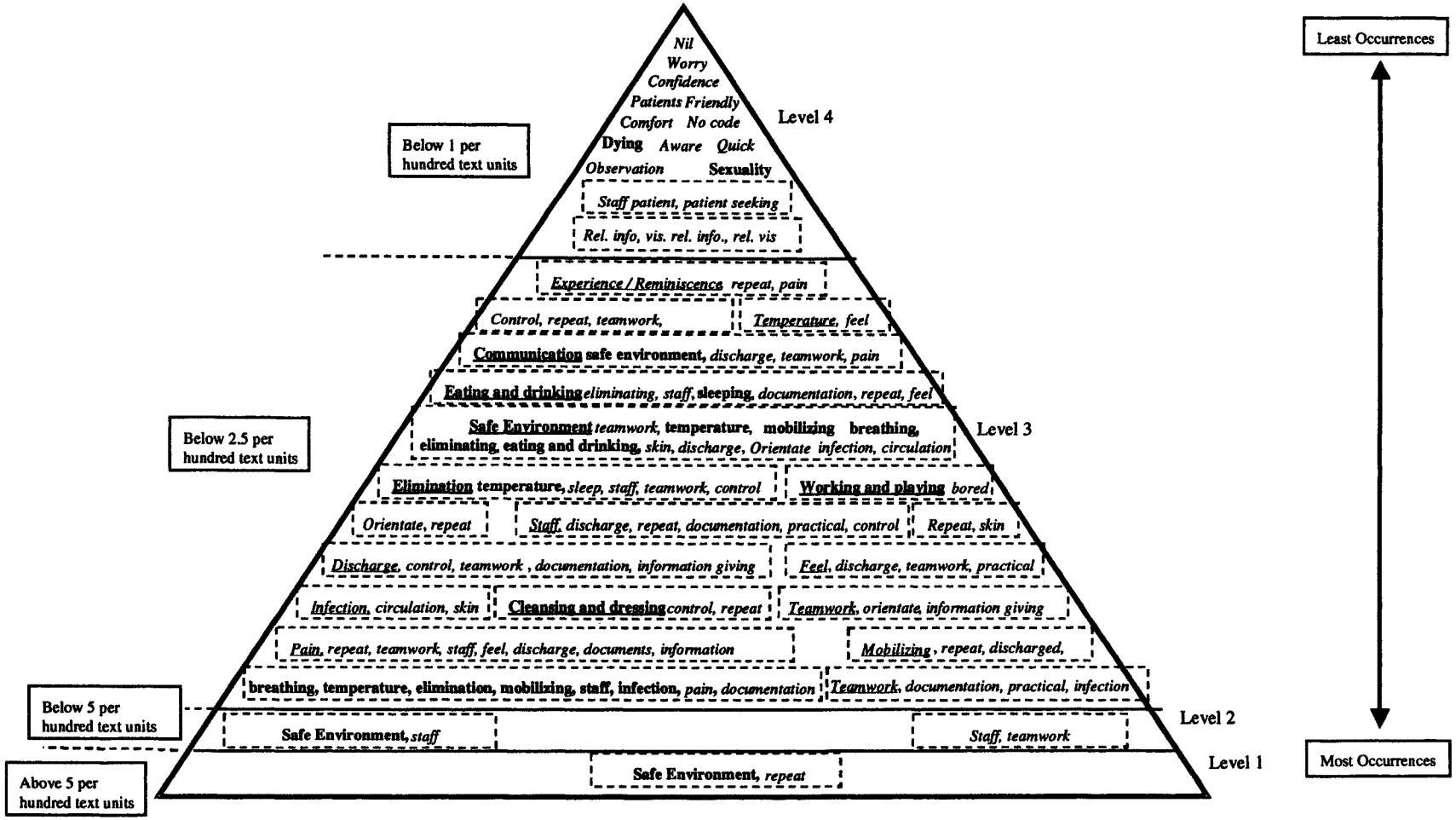


Figure 9.5 The frequency hierarchy of the multiple codes from the perspective of the staff.

The *staff* and *teamwork* code paired together, indicated text units that involved other members of the multidisciplinary team in the care plans, for example social work meetings and ward rounds. This hierarchy (figure 9.5) shows the complex nature of care and reflects the many issues encountered on a daily basis. Although present in the care plans the three pairs of codes in level one and two of the hierarchy occurred more frequently. These codes and how they happened in level three show the relationship between the codes in the care plans. They signify which codes were related to other codes and what issues were addressed in the care plans.

Care plan single codes

Figure 9.6 represented a hierarchy constructed from the care plan single codes; that is where only one code was attached to a text unit in the care plans. Figure 9.6 was developed from the figure 8.1. described earlier.

Once again level one of the hierarchy represented the most occurrences, and the apex represented the least occurrences. Sixteen of the codes were not singly coded in the care plans. These missing codes were not identified by the staff in the care plans, suggesting in this sample that it was not a priority of care.

The *patients'* code was not identified by staff in either the single or multiple coding, suggesting that the nurses were unaware or did not take into consideration, the relationship between patients. This could be reflecting the restraints of time and resources on staff, causing them to focus on specific aspects of care. It could also be true of the following codes **sexuality**, *confidence*, *friendly*, *quick*, *observation*, (*patient seeking*, *staff patient*), (*relative visitor*, *visitor relative information*, *relative information*) and *worry*.

The codes used most by staff formed level 1 of the hierarchy, four of which belonged to the RLT model, **safe environment, elimination, cleansing and dressing** and **mobilizing.** In addition to these the *pain* and *staff* codes were also present, emphasising the issues not identified by the model when giving care in the orthopaedic environment.

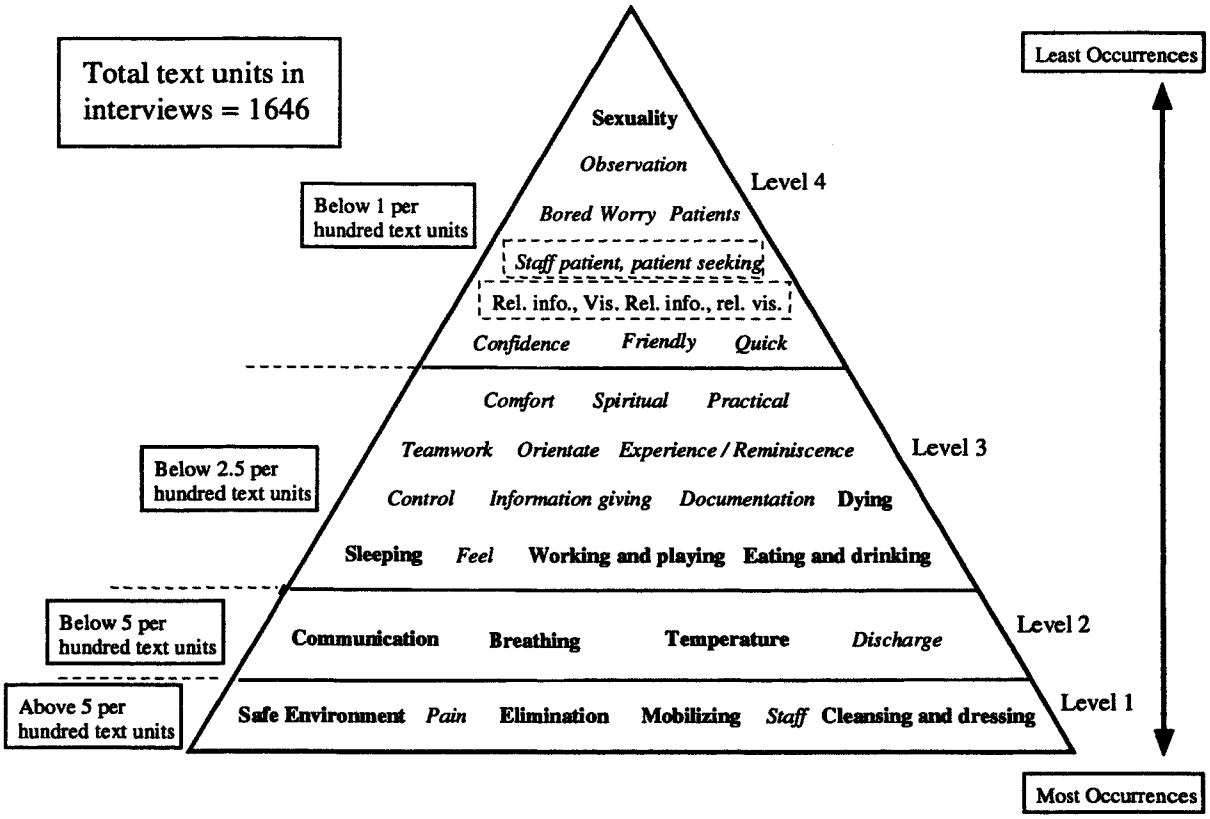


Figure 9.6 The frequency hierarchy of the single codes from the staff perspective.

Bold print indicates an activity of living and the dotted lines indicate codes that were merged.

Figure 9.6 shows that only one code (**sexuality**) in the RLT model, is not being used at all. The RLT codes that were found in the care plans were not clearly identified. That is, the care plans were not laid out as suggested by RLT, but were interpreted as falling under the umbrella of a specific AL by the researcher for coding purposes, when using the ALs as a framework.

On examination of the staff hierarchies (figure 9.5, 9.6) the physical aspects of care are seen to dominate. The psychologically based needs occupy the higher areas of the hierarchy. This pattern was exhibited from the staff who planned and gave care, and appeared to be following a similar model to that of Maslow's hierarchy of needs, where the physical needs were fulfilled first. Once completed, or an established acceptable level was achieved, the next level codes were addressed. The codes' order in the hierarchy were dictated by the occurrence and time spent on these codes on analysis. The staff perspective possessed increasingly psychological

aspects as they progress up through the hierarchy. The patients' perspective of care however, was different.

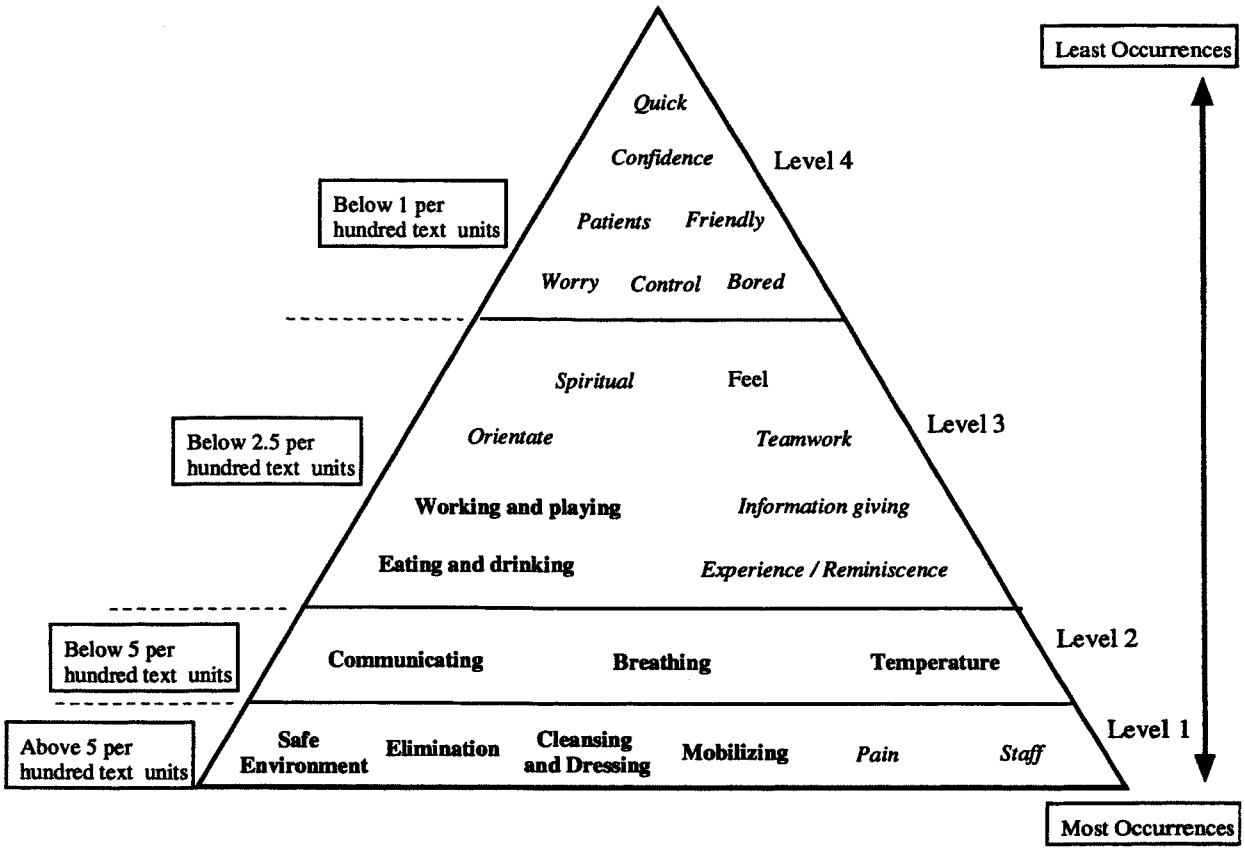


Figure 9.7 The staff perspective of care, where it is different from the patients', as expressed through a code frequency hierarchy. The bold type represents the activities of living.

Comparison of the Patient and Staff Hierarchies

The patients' hierarchy (figure 9.4) and the staff's hierarchy (figure 9.6) were compared and the differences and similarities teased out. The comparison of the patient and staff hierarchies pointed out that the patients' and staff's views of care were different, (figures 9.7, 9.8) and where they were similar (figure 9.9).

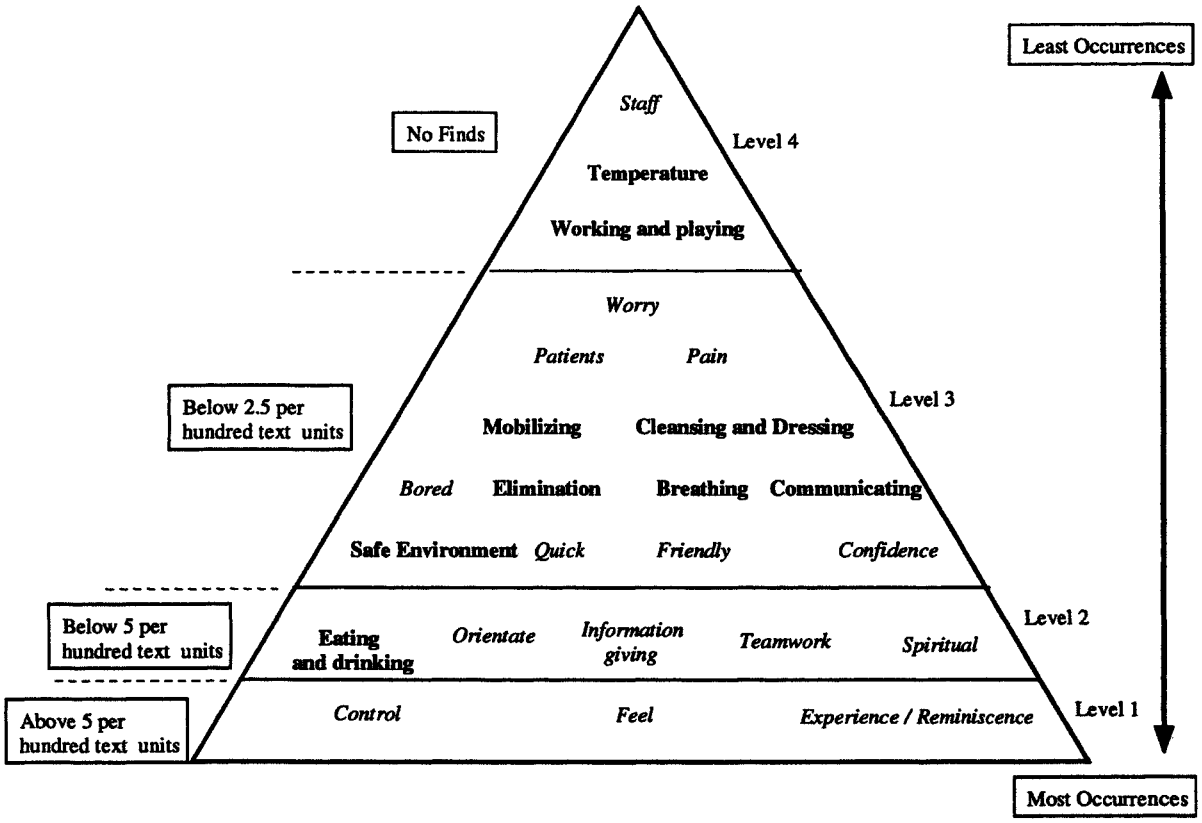


Figure 9.8 The patients' frequency hierarchy showing where it differs from the staff's frequency hierarchy. Bold type represents an AL. Italics represent a NIM code. This figure was developed by comparing figure 9.4 and 9.6, the singularly coded patients' and staff's hierarchies.

The multiple codes were not compared at this stage, as the results for the patients' multiple codes were too low to be constructed into a hierarchy, as discussed earlier in this chapter. The majority of finds remained below 1 text unit per 100 and could not be directly compared. The single coded data was used in this comparison. However, the fact that the codes' occurrences were so low suggests that on an individual basis patients held many varied ideas and expectations about care.

The high occurrence of the *nil* and *no code* was also marked in the patients' hierarchy (figure 9.4). Patients seemed unsure or unable to answer the questions. Some patients claimed they did not mind one way or the other, and in this way avoided the question. Where patients could not answer, one assumed that patients either did not understand, through lack of knowledge or were unwilling to give an answer.

From the comparison of these hierarchies it can be seen that the patients and staff hold very different views about their care. The staff are influenced by the RLT model, where seven of the RLT codes were found to be dominant. It is significant that the staff also identified some of the NIM codes, which were used as frequently, or more than the RLT codes.

It could be argued that the identification of the RLT model represents self-fulfilling prophecy. As the care plans are based on the RLT model and the staff's views in this study are represented by the care plan, then this is going to reflect the RLT model. Although the care plans are based on RLT, it is how staff are adapting and reflecting the model in care that is interesting. Evidence of this is found in the care plans where the nurses not only reflect the model but also include other elements. Staff are adapting and influencing the RLT model to meet the needs of the patients, as they see them.

The patients' perception of care was also found to be very different from that of the staff (figure 9.8). The majority of the RLT ALs were towards level four of the hierarchy and therefore, had fewest occurrences, whilst mainly psychological aspects of care were at level one or two of the patients' hierarchy (figure 9.8). The RLT model was little reflected by the patients. They were understandably unaware of it. The patients however, could recognize the elements of the model unknowingly, and then the researcher would code it appropriately and identify the patients' awareness level of these issues. The patient hierarchy showed that the patients in this sample were more concerned with cognitive and emotional issues rather than physical, and although they identified most of the ALs they were less concerned with these issues, as they occurred further up the hierarchy.

Common Ground.

The staff and patient hierarchies had some common ground, as can be seen in figure 9.9 where the codes that were found on the same levels are shown. Level 4 of figure 9.9 shows infrequently identified codes by the patients and staff. The *discharge* code remained the most frequently identified code by both patients and staff, indicating that this was a common issue and significant to both groups.

Codes that were present in both hierarchies, but existed on different levels, indicated that they were represented differently by the two groups. The patients' focus of care on the issues present in the lower level of their hierarchy were also addressed by the staff, but further up the hierarchy and not before other more physical elements had been addressed. It appeared, in practice, that issues identified from the patients' perspective were dealt with by staff, but occurring less, further up the hierarchy, with initially other more physical issues dominating care. This followed the pattern set by Maslow's hierarchy of needs.

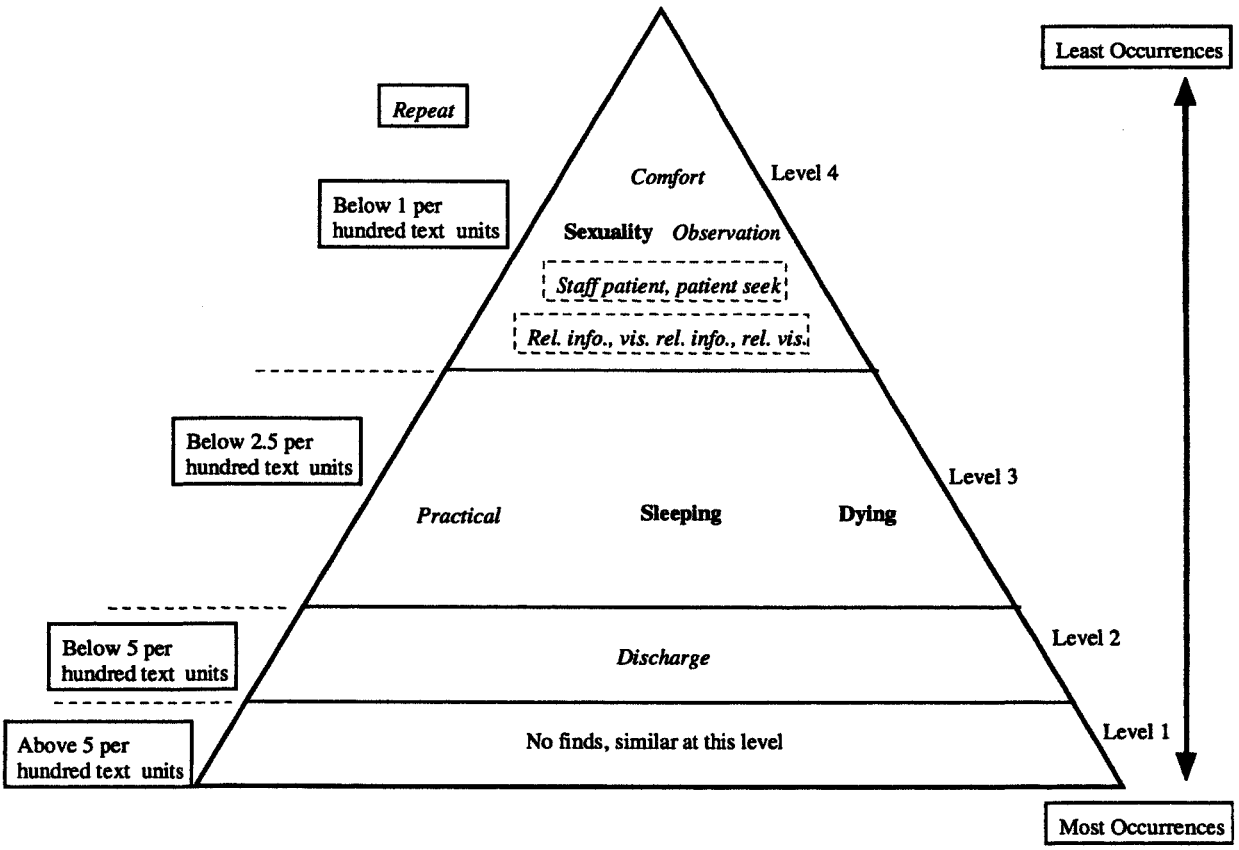


Figure 9.9 The Common ground that patients and staff share. Bold type indicates an activity of living. Italics indicates a NIM code. Dotted line indicates merged codes.

From the comparison of patients' and staff's views of care it could be seen that the RLT model alone was not enough to fulfil the role carried out by the nurse. The nurse and patients manifested this as they identified and implemented NIM codes in care. Clearly the model did not encapsulate all that was relevant in care, or the nurse and patients would not be

identifying issues outside it. This suggests that the RLT model is not quite flexible enough to contain the nurse's agenda for care, and the rapidly changing expectations and nature of nursing the individual. The hierarchical framework shows how the other codes related to the model codes, providing a framework for how care was being given to this sample of patients on an orthopaedic ward.

The RLT model was useful for identifying actual and potential problems, but it failed to recognize some of the basic needs of both staff and patients. This can be seen in the hierarchies. The results also showed that the staff perspective of care was similar to Maslow's framework. The patients' perspective was similar to an inverted Maslow's criterion, with mainly psychological needs dominating their perspective of care. This may be explained as patients lacking the knowledge to understand and deal with some issues; and therefore giving responsibility to staff. Staff dealt with the issue for patients by using their expertise to plan care and take decisions. In this way many patients relinquished their wish to consider and take responsibility for their physical care.

Long and Short Stay Patients Frequency Hierarchies: How They Were Constructed.

The final area of results presented the differences in needs of patients with different trajectories, that is the hierarchy of needs for the twenty-two long stay patients compared to that of the fourteen short stay patients from the sample.

These results were important, as any similarities or differences between these two groups would be useful for the nurse or staff member when planning and guiding care. Fulfilling those issues raised in the respective hierarchy could lead to increased satisfaction in care giving and receiving, and also the individual recovery of the patient. It was also important to explore how the RLT model was implemented in care. Separating the data into these two groups and using the hierarchical framework explored these issues. Prioritizing the occurrences of the identified wants, needs and problems in this way, reflects the position in which today's patients and staff find themselves, where with finite resources and cost effectiveness a priority, the essential care of both patients and staff can be focused on issues that they felt they could do something about.

The long and short stay hierarchies were developed from the original graphs figures 7.1, 7.2 and 7.3 which included the results from the observations, interviews and care plans. These were not

separated into single and multiple codes. As this had already been carried out and the sample remained the same, it was not thought worthwhile to split the data into single and multiple coding again.

The long and short stay hierarchies can be seen in figures 9.10 and 9.11 respectively. These were drawn from the original data graphs and separated into long stay examples. The stay of the patient was judged as being terminated when they were discharged or transferred to another ward. So the patients' stay accounted for the time they remained on the sample ward and did not extend to transfers to other wards.

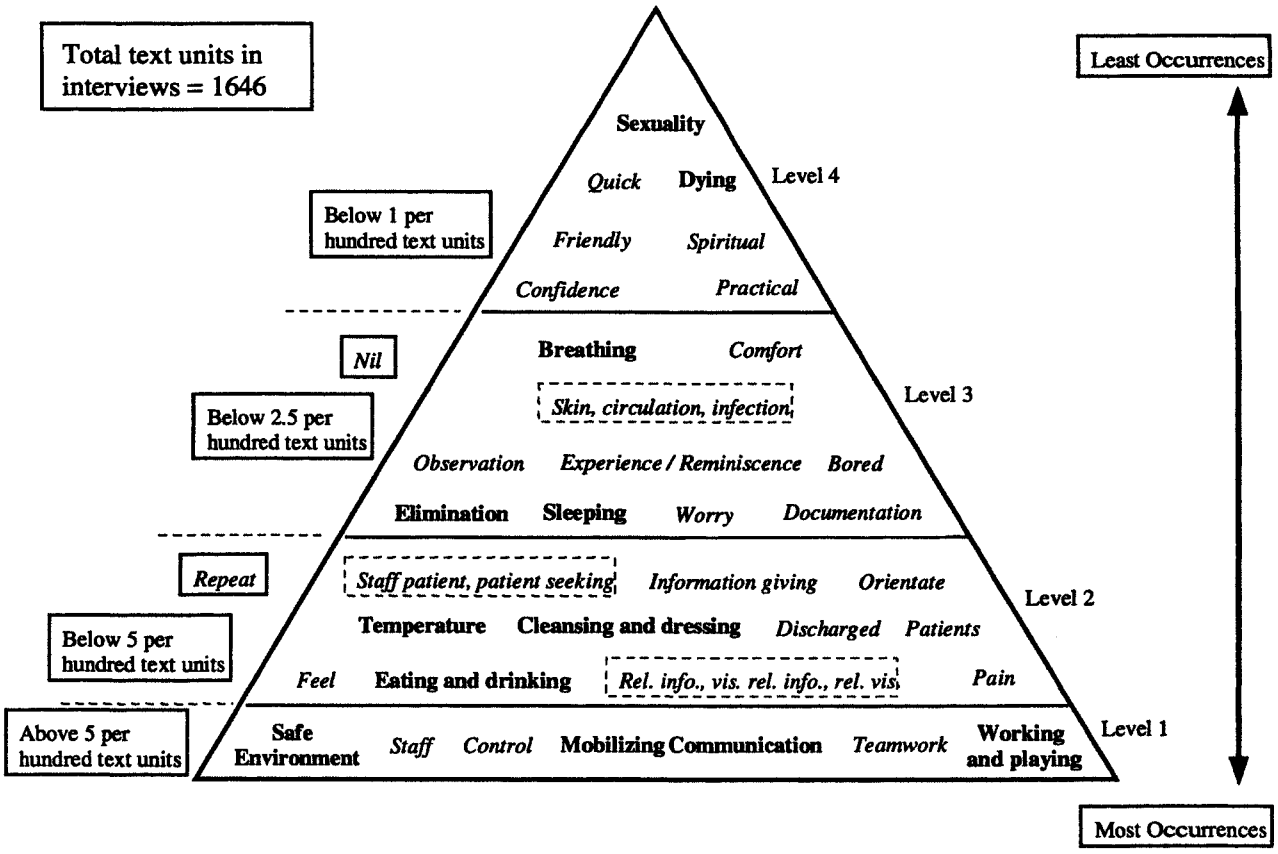


Figure 9.10 The long stay hierarchy of needs. Bold type indicates activities of living. Italic indicates a NIM code and the dotted line indicates merged codes.

To construct figures 9.10 and 9.11 the long and short stay observations, interviews and care plans were identified and the data separated. All the long stay patients were re-examined and the occurrence of all forty-four codes revisited. The total number of finds was obtained, for example, from the analysis of observations, interviews and care plans of the long stay patients. Once the

total occurrence of each code was established they were translated into per 100 text unit (by calculating the number of occurrences, divided by the number of text units in the data type, then multiplied by 100). In this way they could be arranged into the hierarchical framework and long and short stay compared in like terms. This showed the single and multiple codes together as one, and established the frequency of issues emerging from the data. These hierarchies also represent the staff and patient views together. Once the long stay and short stay hierarchies were established they were examined and compared.

From the long stay hierarchy (figure 9.10) it could be seen how the Roper, Logan and Tierney model had been used with the long stay patients. **Communication, safe environment, mobilizing** and **working and playing** formed the most frequently occurring issues of care from the model, in the base layer of this hierarchy.

Long and Short Stay Hierarchies (figures 9.10 and 9.11)

The **working and playing** code was found to occur frequently in the long stay examples. The patients who remained in hospital longer, it is assumed had more time off work, and spent longer away from their normal role. On examination of the actual text represented by this code, the majority of text units occurred in the observations and referred to play rather than work. The code represented reading, talking and joking, watching TV and playing games i.e. computer games. This suggested that the **working and playing** code had a strong association with the *boredom* code, indicating how the patients adapted to their change in role. The **working and playing** code was in both the long and short stay patients. It was expected that the short stay patients would have been less concerned as their stay was shorter.

In figure 9.11 **sexuality** and **dying** were once again found at the top of the hierarchy with a low occurrence. This could be due partly to the sample selection, in that sexuality was not a topic dealt with by staff. Possibly it is seen as a taboo subject and inappropriate in this field. It can be conjectured that this could alter if the ward was a general surgical ward carrying out hysterectomies and orchidectomies, or even in a hospice. However a further study in these settings would have to be carried out to confirm this. This is an example of how using frequency hierarchies could be used to explore different settings.

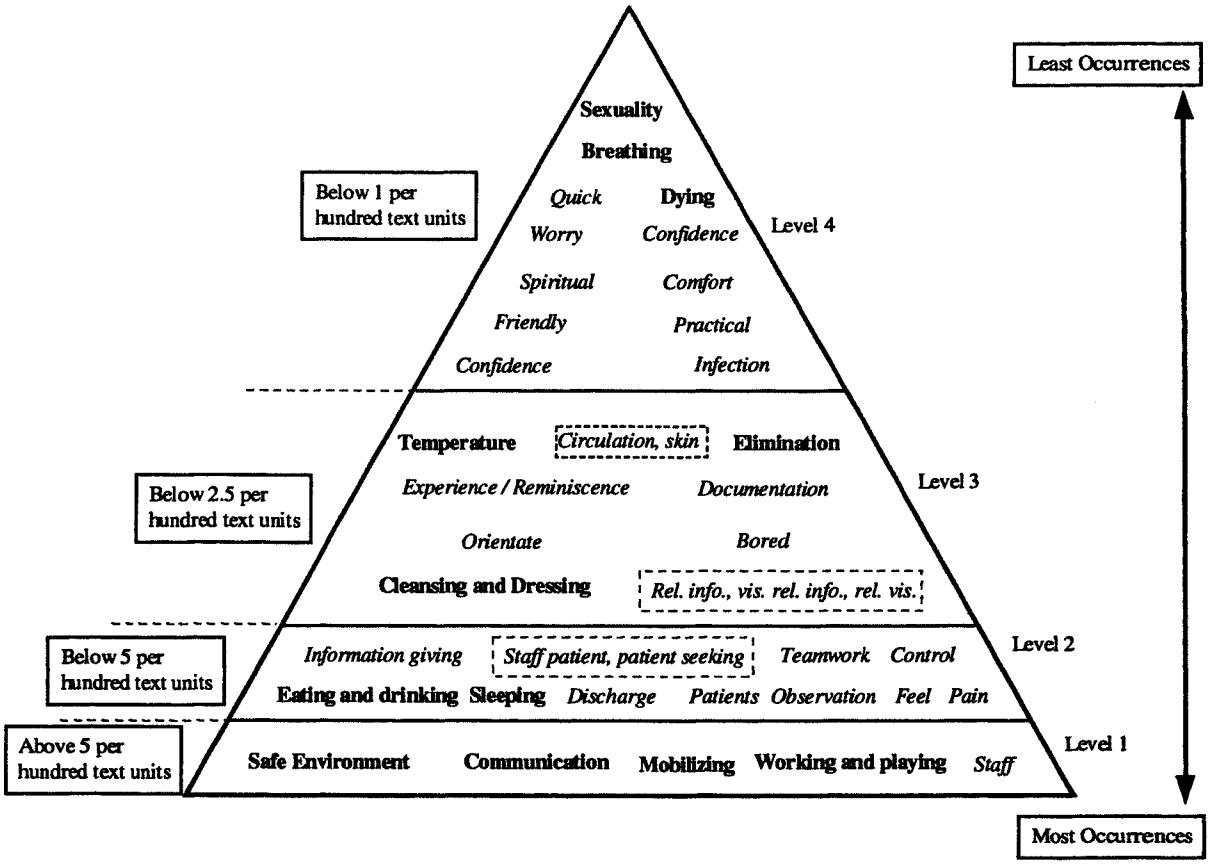


Figure 9.11 The short stay hierarchy. Bold type indicates an AL. Italics indicates a NIM code and the dotted line indicates merged codes.

Eating and drinking and **cleansing and dressing** helped form the structure of a patient's day, providing an expected routine for the patient and staff, including contact with other patients and staff, and providing choice and interest. **Elimination** occupied the same level in both long and short stay hierarchies. On examination of the text units attached these indicated that staff were very much involved in this aspect of care in both long and short stay patients. They gave advice, medication, they questioned and observed patients for potential difficulties. The low occurrence of this code on examination of the text showed that **elimination** was perceived as being managed well. It failed to develop into a problem or need that required greater input. E.g. from the care plans

"Has been constipated, so now takes aperients, given as prescribed. Free from constipation."

and

"Has passed urine post operatively, bowels opened this am. Good amount."

This same phenomenon appeared to happen in the case of *pain.* The code *Pain* was found at the same level in both long and short stay hierarchies, but not at the base level as was expected. Examining the text suggested that it was often satisfactorily controlled. E.g.
"Had analgesia on admission, no pain at rest."
and
"Analgesia given with good effect, pain to foot well controlled."
and
"Has remained sleepy, not requiring analgesia".

Therefore, low occurrence suggests that an issue is not identified as frequently if it is well controlled, indicating less intervention from staff is required. The occurrence of a code suggests the relevancy that code occupies for that patient. If it occurs frequently the staff and patients are dealing with this issues. Low occurrence indicates that it is not identified as an issue to be addressed by patients or staff.

The *feelings* code was found at the same level in the long (figure 9.10) and short stay hierarchy (figure 9.11). This showed that patients' feelings occupied a relatively high level of patient and staff time. Similarly the *discharge, patients* and *information giving* codes were all found at the same level in both the long and short stay hierarchies. These showed that the patients and staff held a similar interest and concern, about discharge. On examination of the text units labelled *discharge* the long and short stay samples had the same occurrence, suggesting that the length of stay did not alter the interest and awareness of discharge. The text however, indicated that short stay patients were more informed and motivated about getting home e.g.
"I am aiming for Monday."
Whereas long stay patients left this to the staff.

The code *information giving*, a vital component of care, was not directly classified by the model, but had surfaced as a component of care, and was identified by both the long and short stay patients. The text attached to this code showed that in the care plans under this heading, details concerning diagnosis, or treatment received, and information given to parents and relatives, were recorded. Recording this information in the care plan, seemed to reduce confusion and increase clarification for relatives and staff. This has implications in the current hospital environment where

patients' expectations are greater, and many are increasingly well informed and prepared to take legal action.

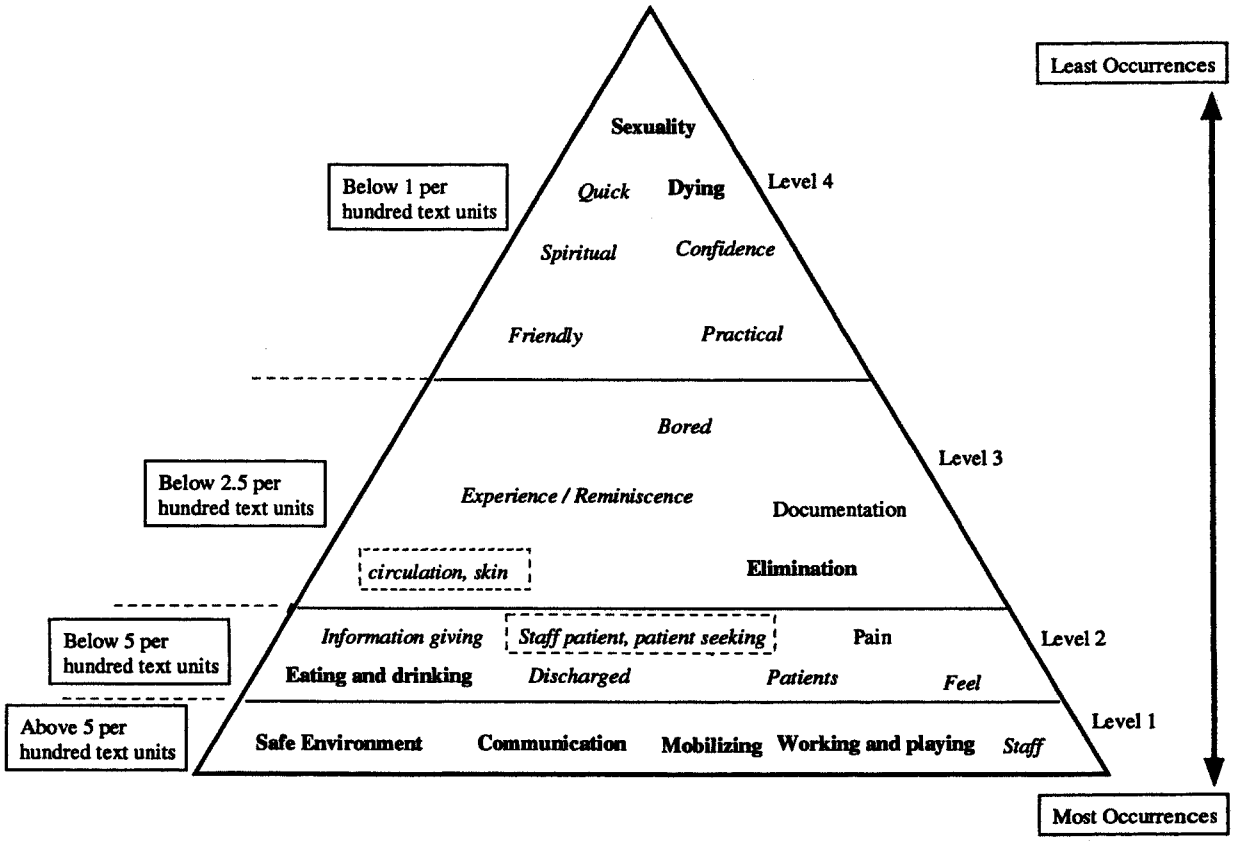


Figure 9.12. The summary comparison of the similarities of the long and short stay data. Bold type indicates an AL. Italics a NIM code and the dotted line indicates merged codes.

Other codes identified in the study had similarities to *Information giving.* They were *orient, patient seek, staff / patient, relative / visitor, visitor / relative information,* and *relative information* (definitions of these codes can be found in Appendix 6). The code *information giving* could be used as an umbrella term, encompassing all of these terms. It would then emerge as an essential and important category for effective care.

Figure 9.12 shows the codes occurring at the same level in the long and short stay data developed from a comparison of fig 9.10 and 9.11. These show the similarities between the long and short stay hierarchies when giving care. It suggested that there was little difference between the needs of long and short stay patients except the fact that they occurred over different time scales. The same issues appeared to occur in patient care in the orthopaedic environment regardless of

individual need. Although the majority of the codes existed on the same level, twelve codes were found to be different, these will now be addressed.

Differences Between the Long and Short Stay Hierarchies. (Figures 9.13, 9.14)

Figure 9.13 the long stay and 9.14 the short stay represent the differences identified between the long and short stay hierarchies. The first code to reveal a different occurrence is the *control* code. It was less of a concern for the short stay patients and identified in the base layer of the long stay hierarchy. The text attached to this code suggested that the patients who stayed in for an extended period of time, were encouraged by staff to exert control in small ways, to prevent them experiencing extensive loss of role, possibly leading to institutionalisation.

The *teamwork* code predictably occurred more in the long stay sample than the short stay. This made sense as long complex trajectories required greater help from staff, as more staff were involved in care, over a longer period, organising discharges tended to be more complex. Patients had more problems and their needs required to be addressed.

The **sleeping** code was unexpectedly found to be of a higher occurrence in the short stay hierarchy. It was thought that the **sleeping** code would be more prominent in the long stay patients, where more disruption of the patients sleep pattern would occur, due to their prolonged stay in hospital. The text attached to the codes was examined and the short stay patients who tended to be less ill were more demonstrative about this aspect, than the long stay patients who seemed to have come to accept it during their longer time in hospital.

The codes *infection*, *worry*, *comfort* and **breathing** (definitions in appendix 6) remained 'weak' categories in the short stay, where they were not commonly occurring. They were less likely to develop a hospital acquired infection or breathing difficulties. Short stay patients tended to be less ill and more independent. They did things for themselves and experienced less disruption of their role. In these ways they could see to their own comfort and could be said to have reduced worries as their care was straight forward.

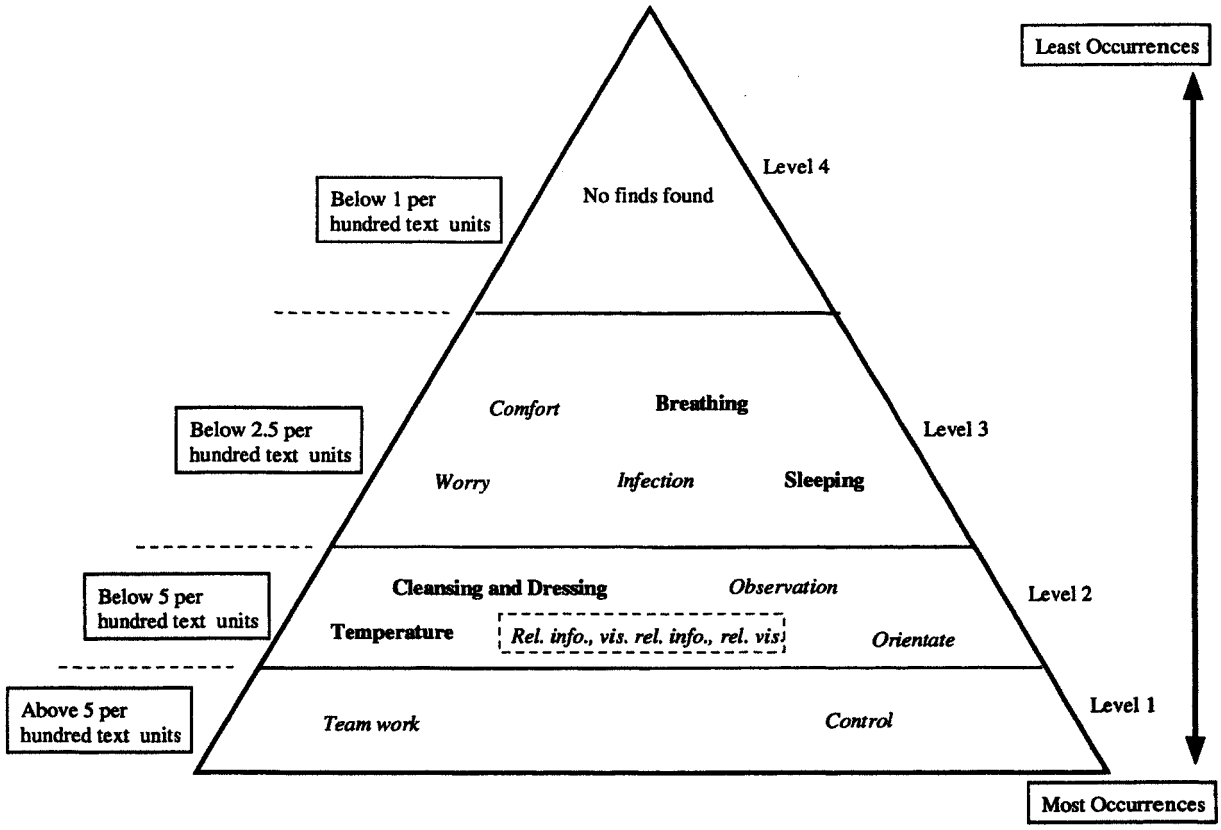


Figure 9.13 The long stay frequency hierarchy showing where the codes differ from the short stay. Bold type indicates an AL. Italics indicate NIM codes and the dotted line indicates merged codes.

The three codes *relative visitor*, *relative information* and *visitor relative information* (definitions in appendices 6) had been grouped together as one, representing similar issues and also identified as being linked with the code *information giving* as described above. These codes were found more in the long stay patients. Contact with people outside of the hospital environment connected patients with home and their normal roles. This could also be said of the *orientation* code where relatives and visitors provided an update on life at home, important to the patient, who, the longer their stay potentially lose touch with these. The theme information giving assumes special significance for long stay patients.

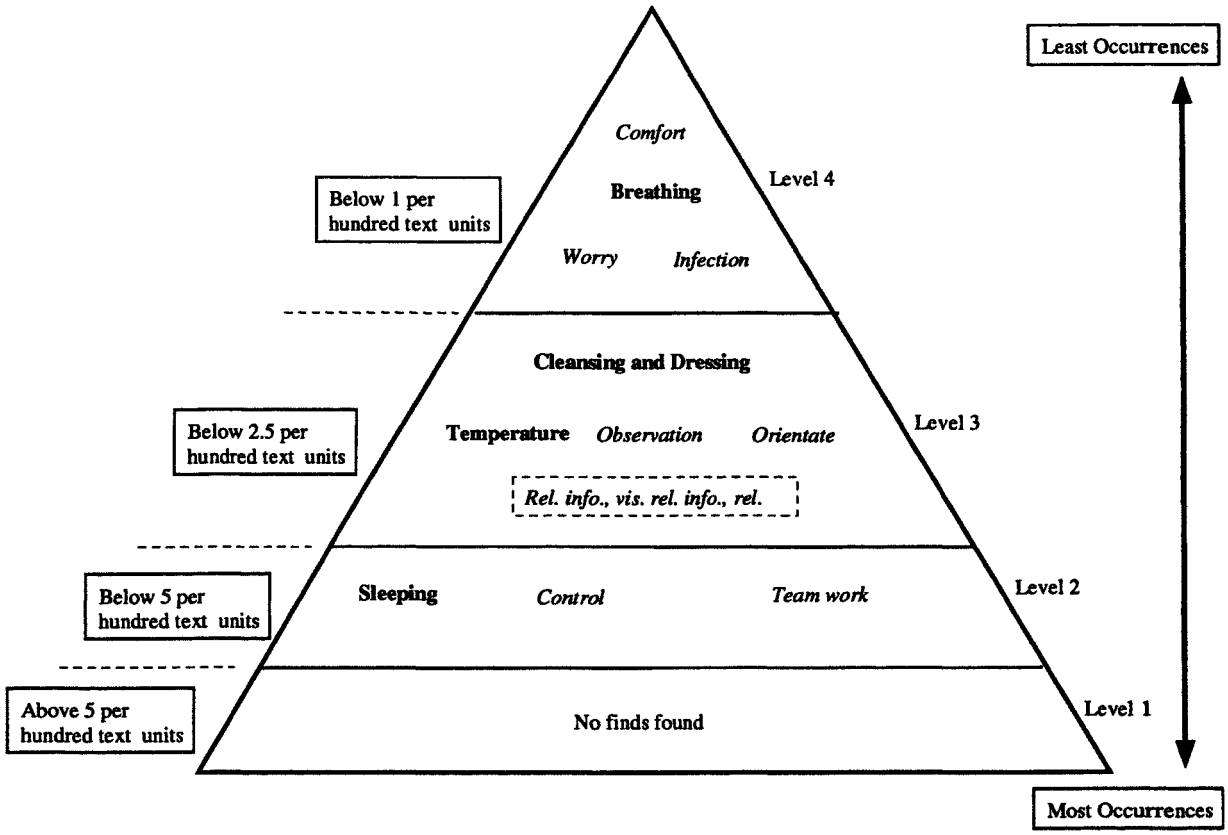


Figure 9.14 The short stay frequency hierarchy showing where the codes differ from the long stay. Bold type indicates an AL. Italics indicates a NIM code and the dotted line indicates merged codes.

The **cleansing and dressing** code was also found to be occurring more frequently with patients and staff in the long stay hierarchy. This was predictable. Long stay patients were dependant for longer, whereas short stay patients recovered their independence quickly and resumed this activity for themselves.

The final code that was different between long and short stay patients was that of **temperature.** This code occurred more frequently in the long stay sample. The long stay patients, I speculate, were more likely to develop an infection due to their susceptibility. They tended to have complex illness and more invasive procedures. Examining the text attached to this code showed that the patients were only aware of staff taking temperatures with thermometers. From the care plans there was the formal assessment on admission, which all patients long or short stay experienced. Other evidence of the use of this code was in the care plans, where the patient's temperature was noted. This duplicated the temperature chart and often indicated the start of an infection in the

patient. The **temperature** code was not identified as a problem in its own right but contained under other issues. For example, wound or chest infection, where not just the **temperature**, but the complete plan of care was outlined.

In summary the identified differences between the long and short stay care plans can inform staff how to meet the needs of patients, whether they are long or short stay, on assessment, or during their stay. The hierarchies show the difference in perceived needs between the long and short stay patients. They are similar (figure 9.12) but some of the similarities and differences identified indicate care requires tailoring to suit the long and short stay patients' care, by the balance and negotiation of care between patients and staff. The identification of these themes helps direct the role of the nurse for these patients and also identifies where care should be focused in the orthopaedic environment.

Staff are responsible for giving and planning care in an environment with a given set of resources. They are responsible for, and set the priorities of care, to ensure the most important needs identified within their knowledge base, are met.

Conclusion.

Frequency hierarchies have been applied to the data in three scenarios; how the model and the NIM codes related; how the single and multiple codes interacted and the differences between the needs of long and the short stay patients.

Several key issues have been identified from the exploration of the RLT model in this study. The process and the main themes are summarized in figure 9.15. This shows how the data collection fits with an overview of the whole study and identifies the emerging themes.

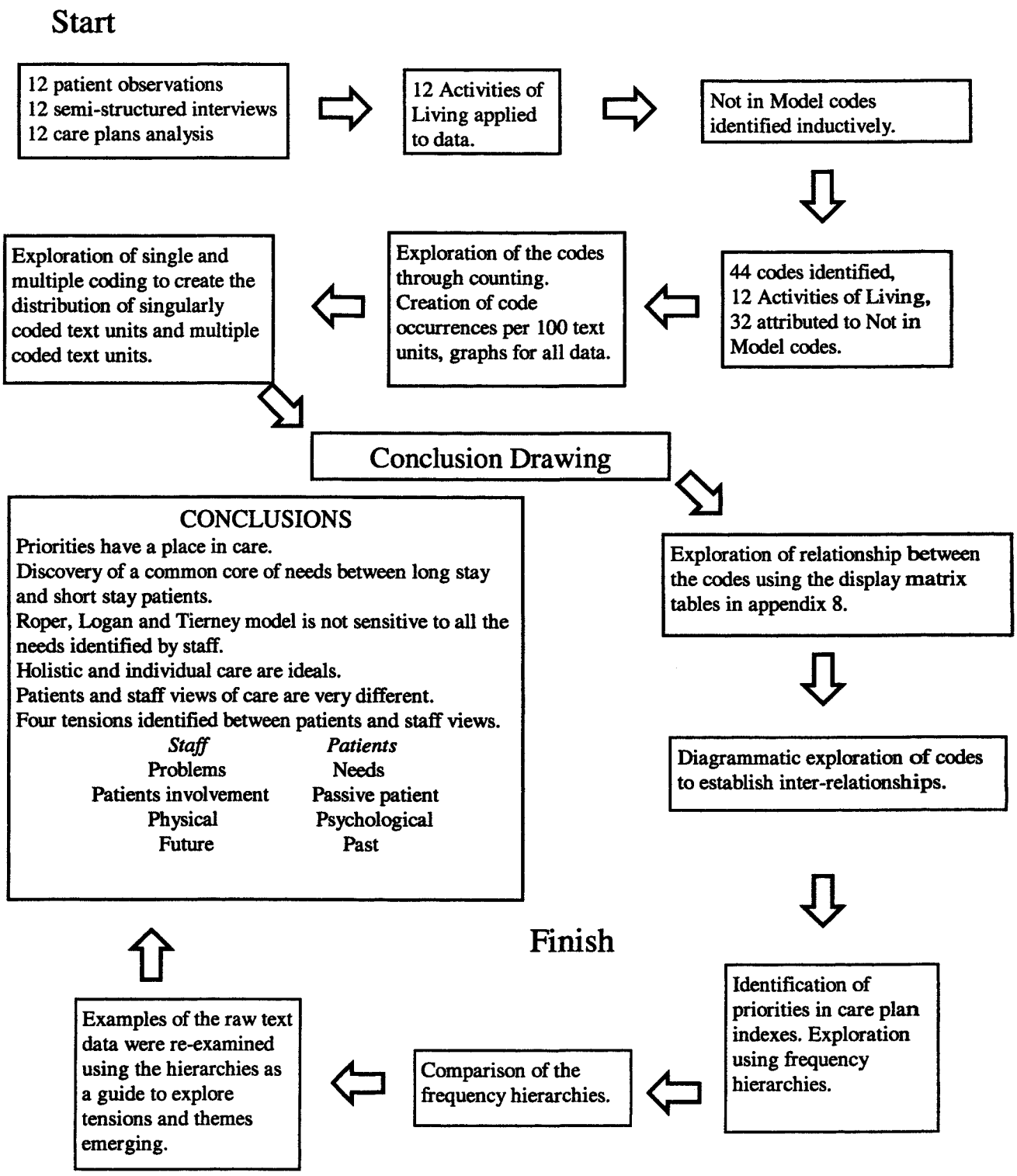


Figure 9.15 An outline diagram of the entire study, which shows how the data collection steps are linked to the process that lead to the conclusions. While the data collection and initial analysis was carried out in linear steps, the process, which leads to the conclusions was almost cyclical in nature.

Together with fig 8.8 and appendix 13 this provides evidence of an audit trail for the emerging themes. It can be seen from figure 9.15 that the data collection and analysis were linear steps, and the development of themes was cyclical. The results show where the patients' and staff priorities and manner of looking at things are different, and identify an aspect of negotiation in care. Some examples are physical and psychological needs and staff managed care as negative problems. Two other issues were also raised in these hierarchies, that the patient did not always want to be involved in care, while staff are concentrating on future goals of care and what is required to be achieved before discharge. This introduces a time element into the giving of care.

The last hierarchies show the comparison of the long and short stay patients. A common core of needs, existing in care in the orthopaedic environment, were identified.

These results support a holistic hierarchical vision of care focused on the individual. They show that staff prioritize care needs, problems, issues and wants deciding, which must be met first and then patients and or relatives can influence them. A summary of the different perspectives of the patients and staff is presented in chapter 11. These support the emerging themes.

This study represents a complex and intricate phenomenon, the interface between the model, patient and staff and their relationship. The innovative step of using frequency hierarchies as tools for further analysis enabled the complex different perspectives to be compared. The following chapter, discusses several issues in the methods and analysis that must be addressed when evaluating the over all results. It critically appraises this study, showing up strengths and weaknesses, before scrutinizing the results.

CHAPTER TEN

Methodological accounting

Introduction

The previous chapter presented the results drawn from the frequency hierarchies revealing how a hierarchical model fits into the analysis of care. The current chapter revisits and evaluates critically the methods and data analysis, before going on to discuss the main themes identified, in chapter eleven.

Criticism of Methods and Analysis

This section is a reflective account of the limitations and difficulties encountered during the various stages of the research.

Practitioner research

This study was carried out by a practitioner researcher and as such was open to the influences this unique position gives (Reed and Procter 1995). The practitioner, as a native to the ward, where the study was carried out, was at risk of being less sensitive to what another might find surprising or interesting, and because of this might have missed significant findings or interpreted the results differently (Silverman 1993). The results have been presented in detail, with code definitions and text unit examples available for scrutiny. Each significant step in the study is recorded, and the reasoning behind decisions documented. In this way the advantages of the research practitioner were optimised and the difficulties mitigated and open to examination.

The tension between the roles of researcher and nurse manifested itself when carrying out the observations and interviews. This proved difficult to overcome as staff and patients continued to include the 'researcher' in the act of giving care. This included requests from staff to help move patients, give advice, to deal with relatives or take telephone calls when the ward was busy. This not only distracted the researcher and interrupted the data collection but also left a distinct feeling of guilt at being reluctant to help. However, this lessened as the study progressed. I gained

confidence as time passed and the staff became familiar with this different role. Not wearing a uniform also helped signal to staff which role was occupied and helped minimise interruptions.

These difficulties were compensated by the advantages that the research practitioner's position gave. These included the trust of the staff on the ward, the use of interpersonal skill already developed for use as a nurse and applied to the research role, the familiarity with the research environment and insider knowledge. The practitioner researcher had previous insight into the ward's workings enabling the avoidance of complexities before they occurred, and allowed for efficient data collection. The main advantage of occupying this position was that as a nurse, the results became immediately relevant to practice, and a deeper understanding of the research process was achieved.

The researcher effect remains an ever-present influence on data collection and analysis, as the researcher's own attitudes and values subtly infiltrate and unintentionally shape the data and the results. Through the Hawthorne effect, the very presence of the researcher, alters the way others are reacting and so unavoidably influences the outcome of the results (Sim and Wright 2000). This factor may have been reduced by the role of practitioner researcher, who is also a member of staff, as arguably less disruption and intrusion would have been experienced by the sample, as the researcher already existed as one of the team.

Data collection and sample

At the onset of the study I thought twelve patients for each method was a suitably small sample, as suggested by another inductive study by Waterworth and Luker (1990). Naively I was concerned that I did not have a large enough sample. However, as the study progressed I experienced episodes of 'drowning' in the overwhelming data, It took great effort to keep the data under control, whilst simultaneously following ideas suggested by the data. It is important to acknowledge the difficulty of qualitative data, because of its fluid nature. Living with the uncertainty and 'mess' of the data can be a strain, but this provides the opportunity and inspiration for new ways of looking at it.

Morse (1994) suggests six patients as a suitable number for a phenomenological study. I exceeded this, leading to some difficulties in managing the data. This was exacerbated by the three different

methods of data collection also chosen. However, these were managed with the help of the Nudist program and a thorough checking of the data. The three methods, observations, interviews and care plans that were used, although complicating data collection, are vital to the study, as they encompass the different perspectives of care. I suggest that a significantly smaller sample in each method be used for future research.

Another possible missed opportunity of this study became evident in the final stages of analysis. The present study used thirty-six different patients in the different kinds of the data collection. This did not allow a case study approach. If a single patient had been followed through the three data types, that is, the same patient used for observations, interviews and care plan analysis, the needs could have been compared in an individual manner, giving greater scope for identifying differences in perceptions of care between the individual and staff. When designing future studies this could be the method used.

Methods: Limitations of observations, interviews and care plan analysis.

Observations

Observational methods involve the detailed observation of behaviour and talk: by watching and recording what people do and say. Participant observation poses less ethical dilemmas than being a complete observer as in an experimental design. However, at its simplest the presence of a researcher can stimulate changes in behaviour, the Hawthorne effect (Roethlisberger and Dickson 1939 in Mays and Pope 1995). As a participant and occupying the role of practitioner researcher, this arguably, may have helped reduced the effect, but not eliminate it.

It is impossible to record everything through qualitative observation, as there is simply too much going on and inevitably the researcher selectively influences what is recorded. The researcher, as an instrument, cannot help imposing his / her own particular perspective of the data, in this case the practitioner's researcher perspective. The process of observation was unavoidably selective and the interpretations of these are mine, as a practitioner researcher, influencing the results.

The feedback from staff comments concerning the credibility of the observations could have been formalised and used earlier in the study to sensitise me to these issues. Feedback took the form of

informal discussions and as such, perhaps the full value of these comments was not appreciated. I suggest that staff and patients might have been used to formally check coding reliability with sections of text, to check the coding was reasonable.

Another limitation of the observations is the focus of each observation on a specific time period; anything external to this is missed, as the researcher does not observe it. Although, the implications may influence the behaviour of the individual being observed, the observer can be left unaware. Attempts were made to limit this by asking staff what had happened that day to the patient and noting these at the top of the observation. However this effect could not be removed completely.

The effect of role clash has already been identified as a difficulty for the practitioner researcher. This was felt most strongly during the observations, the first method of data collection, as I adjusted to the new role and got used to the intrusive nature of the observations. Roles in practitioner research can be confusing and problematic. The familiarity with the setting may cause confusion with the research, and has implications for the role as researcher. The practitioner role intrudes, as I found, with many interruptions from staff and patients. It may also have prevented me from recognising issues that were already familiar. Potentially this type of research may perpetuate existing practice (Reed 1995). However, if this position is made explicit to the reader it can be considered. The researcher, by acknowledging the position, allows a clearer understanding and challenging of their position, leading to realistic critical analysis. This could not have been achieved if the practitioner researcher position had been denied (Pirie 1995, Stevenson 1995, McKeown 1995, Davies 1995).

Interviews

Reflecting on the interviews, three issues arose that influenced the research process. The first concerns the nature of the relationship between the interviewer and interviewee. It is generally accepted that communication skills and interpersonal sensitivities are essential elements of the interviewer skills (Gordon 1998). Nurses are often attracted to interviews, as it is an extension of the interpersonal skills they use in everyday practice. The researcher can limit the enquiry through the skills and ability she possesses. Reflecting back to the beginning of the study my naiveté is obvious. Previous experience with interpersonal relationships with patients is valuable when

embarking on research interviews (Munhall 1994), however, these skills, although useful, were used in a different way. The nurse-patient relationship and the practitioner researcher-patient relationship is subtlety different. I experienced an unexpected relationship change when carrying out these interviews.

This study carried out one interview with each patient. Mishler (1986) identified the limitations of this, where the researcher's interpretation of the account is not sensitive to the social and cultural situation the data has produced. Kvale (1996) also argued that it is difficult to establish a suitable relationship with patients at one interview, at a level to determine meaning. This is a legitimate argument. The role of practitioner researcher gives advantages through tacit knowledge and familiarity with the setting that influenced the interpretation of the interviews. One suggestion for future studies would be to do three interviews per patient to build rapport, but this is dictated by the constraints of time.

The timing and place of the interviews in two cases was not ideal. These patients could not be moved into a quiet private room. While every effort was made to maintain privacy (Drawing curtains, interviewing at quiet times) the close proximity of other patients and staff, who could listen to the interview and interrupt at any time, may have altered the outcome. However this was determined by the patient and could not be overcome.

Care plans

Care plans, as secondary data, are assumed to be unbiased i.e. not influenced by the specific study questions. Although care plans are not influenced by the specific study questions or associated data collection (Hail et al 1997), they are influenced significantly by those who create them and therefore are not unbiased or uncontaminated. The care plans were created for reasons other than this research. They do not reflect the factual reality of care, but are a social construct in their own right (Reed 1992). The care plans give a focused view of care as documented by the staff. According to Wimpenny (1999) this represents the surrogate model and how the model is operationalized in care. The care plans then represent an interpretation of the model by the staff, but this is different from the mental model held by each nurse, which could be explored through staff interviews. In this study the Hawthorne effect could have influenced the care plans. Staff, aware of the research, may have improved the care plan through the duration of the study. Whilst

the staff were unaware which care plans would be used, this issue was impossible to resolve, as all the care plans could have been altered in subtle ways. This lack of control over data collection illustrates a difficulty of using secondary data (Nichol & Beyea 1999).

The result of this may have been positive for the study, as staff made increasing effort to incorporate the model into care, in a way that met with their mental model. However this supposition cannot be supported and I have no way of knowing whether this was the case.

One interesting issue concerning care plans is that they do not represent what is actually done in care. Nurses do not record minutely and accurately all that they do. Hail et al (1997) acknowledges that what nurses do is not the same as what they say they do, or record. Considering the limitations of time and what can be recorded this cannot be verbatim, the nurse is likely to record "pressure areas are intact" at the end of a shift rather than record it each time they were assessed during the shift, unless this is a matter of concern. The default position is only if it is a need or problem. Openshaw (1984) argued that the quality of documentation may not be an indicator of the actual quality of care and suggested that other techniques should be used in conjunction with the care plan evidence, as in this study. These influences should be considered when reviewing the results.

Influencing Factors

The outcomes of the study may have been influenced by other factors that need to be considered. The first is the possibility that the staff on the ward were unfamiliar, or did not fully understand how to use the Roper, Logan and Tierney model. The authors of the model have often made this claim, when staff have reported experiencing difficulties. This would have influenced the way the model was used in the care plans and the results. However, as the model was applied externally to the data in the initial analysis, and used as a framework to guide the analysis, the issues arising (NIM) remain valuable, as they do not fit easily into the model.

Do staff interpret how to use the model in the same way as the theorists and managers? McKenna (1997) argues this depends on how the model was introduced, educational support given and perceived ownership of the model. This was not explored prior to the study, so the level of understanding of the model by staff is not known. Staff use the model in the most appropriate way

for themselves from their own interpretation of it. If it is not being used as RLT suggest then this fits with the author's notion that if a part of the model is not found to be useful then discard it (Roper, Logan and Tierney 1996). The results remain valid even if the nurses are not implementing the model completely as prescribed by the authors, as this is the way the model is expressed in this setting, and as such remains interesting and worthy of examination.

Another influencing factor was that the researcher might have altered the outcome of the research unknowingly. The Hawthorne effect was evident through the *feel* code, where patients identified the issue of not being a burden to staff, indicating that they changed their behaviour to do this. The practitioner researcher's influence could not be separated from the existing staff influence on patients and as such the Hawthorne effect remains.

Criticism of Analysis and coding

The analysis of the study rests on using the RLT framework as a focus. It is arguable that the focus on the model may be detrimental to the profession, as it detracts from the subject matter of nursing practice and concentrates on the model, increasing 'conceptual closure'. In this study this is counterbalanced by developing the Not In Model codes (NIM) from practice, which may have a more beneficial focus for professional development.

The researcher also limits the analysis, as inevitably, I present the research as I see it. The presence of the audit trail (Appendix 13) allows the reader to follow the development of themes and judge the outcomes. A difficulty experienced during the study as a practitioner researcher was one of isolation. As the study progressed the distance from the university department and other students reduced the opportunity to critically develop ideas to a higher analytical level. Effort was made to ensure a rapport occurred, through discussions with supervisors, staff and other members of the academic team. I was able to question and clarify assumptions.

The difficulties of managing the sometimes-chaotic nature of the data for analysis also proved to be challenging. However the messiness and uncertainty of the qualitative data provided opportunities for new ways of looking at things, frequency hierarchies and the themes they suggested.

On reflection, when coding the data I experienced a steep learning curve. Coding at the onset of the study, contained naïve elements, some of which were discarded and some that remained, for example the information giving, teamwork and discharge codes. At the time these reflected the issues present in the text unit but were of a different nature compared to needs and problems in the final analysis. This was perhaps encouraged by using the RLT model and NIM codes as a framework to separate the text into fragments, which were regrouped into codes and then themes. Silverman (1993) argues that frameworks can become conceptual straight jackets from which it is difficult to escape. While the RLT model and NIM codes are useful in organising the data, they can hide other uncategorised events. However, this was overcome by returning to the text, where themes could be identified as indicated by the frequency hierarchies.

Inevitably as a practitioner researcher, I influenced the study through using my previous experience. With hindsight and developing experience, the sensitivity of the coding could have been more refined. Other analysis issues also merit discussion here. These concern the credibility, dependability and confirmability of the study, including discussion of false finds, occurrence, using hierarchical framework and analytical assumptions.

False Finds

The hierarchies are constructed using the number of occurrences of any given code in the collected data. The Nudist computer package is used as a tool to record and count how the codes occurred. This was an accurate way of counting, however the program was not infallible and is only as accurate as the information inserted. The use of computers can potentially hide inaccuracies or false finds in the coding, which are difficult to uncover if not looked for. When it came to constructing the occurrence graphs and frequency hierarchies each significant code with all its text units, was examined to identify these false finds. By revisiting the actual text examples, any false finds and incorrect labelling could be recognized, taken into account and adjusted.

The Meaning of Occurrence

The relationship between occurrence and importance to care, deserves some exploration, as it is not direct. It can be argued that the link between occurrence and relevance to care is a tenuous one and therefore not significant. However, I believe that the link is legitimate in that the code occurrences not only represented episodes of time that staff and patients spent dealing with the

coded issues through the observations, but also the accounts that patients and staff gave of care, through the care plans and interviews.

In this way they represented care being given and received by staff and patients. I acknowledge that this is not a precise representation of care, for example if a patient has diarrhoea and frequently refers to their bowel function, they may not see this as their most vital need and in fact are more concerned with going home. In the descriptive analysis the number of times a code is used does not directly correspond to the importance of that need or the weight it has been given by the staff or a patient. Indeed something that has been mentioned only once, at perhaps great embarrassment to the patient, may be very important, but not given the attention or weight it deserves.

Frequency hierarchies provide an interesting and legitimate representation of care, as each occurrence of a code represents time that was spent on that particular issue. Therefore it assumes a legitimacy in care, as valuable time is being spent addressing it. I acknowledge the narrowed view that this presents, as significant issues may not be obvious to the researcher. Frequency hierarchies, however, focus on mundane and everyday issues that nurses' and patients' are concerned with, therefore addressing the practice of nursing. Using the hierarchy to explore the codes further helped to identify the emerging themes.

The frequency hierarchies do not represent absolutely, the order of needs in care. The use of quantizing gives a representation of care and an impression of how needs, problems and wants of the patient and staff are being addressed during care, especially when different data types are used and cross-referenced. This allows many issues that exist outside of the Roper, Logan and Tierney model, but within care, to be illustrated in this setting.

The reader should be aware of another influencing factor. The frequency of the codes in the observations is influenced by the data collection. For example **Eating and Drinking** would be higher if observations were carried out only during meal times. However, efforts were made to limit this, by spreading the observations throughout the day, ensuring that observations took place in the morning, afternoon and evenings and not all within the same time period.

Quantizing or counting the codes as they occurred in the data gives only the awareness that staff and patients had concerns included in that particular code. The meaning behind the occurrence of the codes was derived from the actual text attached to the codes, and the hierarchical framework showed how the codes related, providing stimulation and guidance to which text required more detailed examination.

Hierarchies

Why a hierarchy of care?

Research has identified that a recurring complication of care giving, is that nurses have often failed to recognize patient problems and the relationships between them. This has been reinforced by research that also identified that nurses not only forgot problems and failed to incorporate them into care (Aspinall 1976, Corcoran 1986) but also discarded relevant problems and over simplified them (De la Cuesta 1983, Corcoran 1986). Although not attributed completely to models of nursing, they may have contributed to this, through their compartmentalization of care and the restricted role of the nurse. The model influences care in a particular way that sometimes does not fit with the problems and needs exhibited by patients, relatives or the staff themselves.

The Roper, Logan and Tierney model, in this study fails to encapsulate all that is demanded of the nurse when giving care (Ch 7). It not only missed problems and needs, identified in care, but the twelve ALs and the way they are presented, may have discouraged the exploration of the relationships between the activities. Roper, Logan and Tierney acknowledge that there are relationships between the ALs when they stated that it should not be a 'straitjacket' (1996: 36) however, the way the ALs are presented does not encourage exploration into the relationships between ALs in practice.

Roper, Logan and Tierney (1996; 23, 36, 37) do acknowledge the relevance of priorities to care, where they say that Maslow's needs hierarchy is:

"to some extent relevant to the concept of ALs but, unlike needs, ALs have an advantage for a nursing model, in that they are observable and can be explicitly described, and, in some instances, objectively measured. It is not easy for the nurse to assess needs as such; it is less difficult, although still not easy, to describe a person's behaviour in relation to activities of living".

The potential relevance of a hierarchy existing in care giving, is not explored in the Roper, Logan and Tierney model.

The adoption of a hierarchy as an analytical framework is also open to challenge. This framework was chosen, as it offered several parallels that matched with the data. These included, a holistic approach to care, which was being sought by both the model and those giving care. This point has a resonance that applies to the whole of nursing, as the profession strives to develop holistic care. This framework offers flexibility, allowing the inclusion of wants, needs and problems easily into its framework, as well as any other complexities of care that arose. The final reason was that a hierarchical framework seemed to fit with the results, as suggested by the care plan indexes where staff were ordering the problems and needs identified (appendix 12).

This study suggests that staff approach care in a manner that fits within a hierarchy. When giving care, all staff, unconsciously select issues that are to be carried out first. Vitale et al (1978) argue that it is the nurse who decides which part of the plan takes priority; who is the best person to carry it out; what procedures and policies are involved; and what time can be devoted to the care in view of other patient demands. A hierarchy of needs reflects these issues in care, revealing the relationships between problems and needs of care. This gives a more realistic picture of the reality of care given, than the model alone. It links needs, problems and care plans to the actual occurring care actions.

Limiting Factors of Frequency Hierarchies in Defining Care

The Roper, Logan and Tierney model has been accused of compartmentalizing care. Using a hierarchy as an antidote to this could be argued as simply replacing one framework with another, which is equally limiting. A hierarchy framework centres care on specific needs and problems at the expense of others further up the hierarchy. In this way the framework could be argued as being too focused for care. For example, Maslow provides a psychological perspective that can be valuable in helping nurses to think about using hierarchies of need, while conversely being criticised for being inflexible and merely a checklist of items in a rigid structure. Therefore hierarchies occupy a contradictory position, both holistic, but also limiting (Wimpenny 1999). In this position the hierarchy provides insight for the nurse by underpinning theory, but is also restricting, as transfer to practice may be limited. The flexibility of the framework in this study to

include all the problems and needs identified in care into a hierarchy reflects the manner in which care actually occurs, successfully linking them to actual care actions. The concept of holistic care is present in practice, but the limitations of time and resources impose a hierarchical structure in care, where choices have to be made about the focus of care. It is here that negotiation between the nurse and patient becomes important.

There has been some criticism of the use of Maslow's ideas within nursing, where nurses attempt to apply Maslow's theory directly to nursing care (Webb 1984) and also its over-simplification (Roper, Logan and Tierney 1996). Others generally criticise the use of psychological theories in nursing, claiming that nurses should be developing their own body of knowledge. Such criticism is noted in this study. However an important factor that influenced the use of an adapted form of Maslow's theory was that it fitted well with the data and allowed the inclusion of all the issues raised in the data, whilst reflecting how care was being given.

Analytical Assumptions

In this study I assumed that the RLT model is fully understood by staff, but there is no proof of this and it could be argued that the model is only used in a limited manner, influencing what is reflected in the results. As no assessment of the knowledge base of staff was initiated prior to the study, this is unknown. Staff claim to be using the model and believe that they are using it, therefore it remains pertinent to the study.

Another assumption concerns the development of the codes and which section of text falls under a particular category. As a practitioner researcher, I selected which AL matched a particular section of text. Therefore, arguably as an individual, coding the data, I am open to bias and inaccuracy. In hindsight reliability could be checked with other researchers, but this would have been difficult in this study, as I was a lone researcher. Another option was to use other practitioners in peer review. This was done informally. In future I suggest it be used to a greater extent to check the credibility, dependability and confirmability of the study. In this study the trustworthiness of the codes is established through the iterative process, checking coding with examples to show how the data is coded. This not only contributes to the formation of the audit trail, but also allows the reader to judge for him or herself the suitability of the coding (Guba and Lincoln 1989, 1994).

During the investigation one decision was taken which on reflection proved to be questionable. The observations raw data text contained a large amount of text, which was divided into three groups to aid coding and ease the handling of text, as they were put into smaller sections. These were, text containing reference to the staff as one group, the patients as another, and visitors or relatives, as the other (fig 6.1). Although this aided the initial stages of the coding it proved to be difficult when carrying out the later stages of analysis. As the text attached to the code had been removed one step away from the original, to gain the complete picture of the original text, and to uncover its full content the observation had to be returned to. This introduced another step into the analysis, which was at best tiresome, and at worst confusing. I suggest that in future the coding be placed as close to the original text as possible to limit this and save time.

Another point that requires comment is the assumption made during analysis that the care plans should act as a focus for analysis, and as a pivot for structuring the hierarchies of care. The care plans were given this importance because they represented the constructs of the staff who directed care with their knowledge and responsibility as professionals, and provided a service for patients. The care plans remain a representation of care. They record what the staff viewed as important. This did not necessarily represent what actually happened when care was given, that is they did not record every care action, but recorded what the staff perceived as being significant to care. The hierarchy analysis highlighted the necessity and usefulness of a multi-data type approach to this type of study.

Implications of theory evaluation

Although the call to test models has been evident for some time, there is very little evidence to support their use in practice (Faucett et al 1990, McKenna 1993). However, models are widely used and accepted in all aspects of nursing, including patient care, research, education and administration. As discussed in chapter two the nature of models meant that they could not be tested in the traditional manner (Hardy 1988, Nyqvist 1993, Garon 1992). This raised the question how can models be explored and evaluated?

Rather than theory testing should we be seeking theory falsification? (Popper 1972). The idea being that it is difficult to prove that all swans are white, while the existence of one black swan

refutes this (Guba and Lincoln 1994: 107). This is relevant to nursing models, as they have been unquestioningly accepted in practice and not viewed in such a critical way. The emphasis shifts from theory testing to falsification, where models accepted uncritically are rejected by the practitioner, to a position where a model must prove its worth. It is currently arguable that more attention is given to supporting rather than refuting evidence of models' usefulness (Wimpenny 1999).

There are many different ways of evaluating models, using frameworks created for this purpose. These frameworks possess features that consist of common elements that make up theories (McKenna 1997). There are numerous frameworks in the literature that set out to evaluate models Hunink (1995) based on Fawcett's work (1995), Fitzpatrick and Whall (1996) and Meleis (1991) to name some. These represent an objective view, where facts about models are uncovered, e.g. tracing their history, research base and motivation for development. While this prompts the nurse to question the basis of the model, they in no way address the thorny issue of how to test models in practice, although they acknowledge that this is required (Fawcett 1995). These frameworks give an objective view of the model, presenting facts on which to judge it, providing insight and depth to inform the nurse. However, they do not inform the nurse of what it is like to use the model in practice and how it performs. It is this subjective view that is required and this is only available in relation to practice.

Models are presented as statement of 'truth' (Aggelton and Chalmers 2000) where it is assumed the nurse has internalised the model and is thinking in terms of the model. This is not always the case. Nurses do not think only in terms of ALs. The results from this study suggest they also focus on the concept of need. Parse (1998) argued that using the RLT framework for assessment had little impact on subsequent stages of the nursing process, where the model had become a checklist to ensure all the ALs were covered, rather than living through the model. Aggleton and Chalmers (1986) view the mental model of the nurse as containing many different ideas and perspectives that can be unified by a model of nursing. This however, relies on the nurse internalising the model and taking on that perspective of care. The nurse's mental model influences the way the model is used and remains a major influence on practice, as it is through the nurse's mental model that nursing occurs. McKenna (1994) notes the subjective view is merely a perception of reality, rather than reality itself. However, the nurse's mental model

influences any decisions in care, representing more than a perception of nursing; indeed the mental model is nursing for that individual.

The literature also treats models as the 'truth'. They have been accepted without challenge, in many cases being viewed through pros and cons, without an evaluation of their worth or limitations (Wimpenny 1999). Nursing models are used in all fields of practice, education, research and administration. This has created a confusion around models that exists in practice and the literature today. They are being used but have not been critically challenged.

In the literature the relationship between the criteria for theory evaluation and selection of a model is similar (McKenna 1997: 223). However, in practice, models are introduced from the top down. Subsequently nurses do not own the models they purport to use. Wimpenny (1999) argued, what was the point of introducing models in this way when this appears to have little impact on practice? Without active involvement from the nurse in establishing and implementing the model, it becomes a managerial exercise. The method of introduction of models to practice is crucial. The top down strategy magnifies the difference between the model and the nurse's internal model. Nurses are not involved in selecting the model, but are responsible for its implementation, thus inhibiting ownership and development of the model concepts.

The objective view, provided by the frameworks of analysis and evaluation is not enough to evaluate models alone. The subjective view encapsulating the mental model of the nurse is central to the way a model is reflected in practice. Similarly the adoption of theories from other disciplines need to be adapted, otherwise they do not become nurse orientated (McKenna 1997).

An interesting area for study is the difference between the model of care as the ideal, and how it is reflected in practice. The nurse's internal mental model drives care, discovering how nurses reflect the model in care. Articulation of this mental model of nursing is vital to establish the foundation of nursing and how these meet the ideal of theoretical models like RLT (Wimpenny 1999).

In this study I suggest that the way the RLT model is reflected in practice is the mis-match of the theoretical model with the nurse's own mental model. Nurses need to be empowered to own the model, to ask questions, where it differs from their own philosophy. The involvement of the nurse's internal model when implementing the model is imperative, as it is only through the

internal mental model that the model has worth and acceptance. The internal mental model as the reality for nurses is 'nursing' for the nurse (McKenna 1997). Focussing future studies on the internal mental model can help articulate what it is nurses are doing.

Using the RLT theoretical model as a foil for nurses develops an understanding of their internal mental model. This may contribute more to the nursing profession than concentrating on the model alone. It is possible that the nurses are reflecting elements of more than one theoretical model in their mental model (Wimpenny 1999). Focusing on the philosophies held by nurses about care that mould the mental model, and the interaction between these and the theoretical model, gives scope for developing the profession.

Tierney (1988) defends the RLT model arguing that it meets social consideration, (utility, significance and congruence). Tierney (1998) claims that these are achieved by the model, which accounts for its popularity and the many case studies found in the literature. In this way the RLT model is familiar to nurses and may account for its wide use. However, Wimpenny (1999) argues whether social congruence is actually occurring. Evidence exists where the model does not fit with expectations, an example of lack of fit with the elderly (Reed and Robbins 1991) and with care of people with learning disability (Duff 1997). The model may not meet social considerations but is chosen because of its familiarity and simplicity. The pressure to implement models in care, encourages its use, as any model is better than no model.

Wimpenny (1999) addresses the complex debate concerning models and their purpose, as involving two areas: models for thought or models for practice. Some maintain that models must be relevant for practice; others argue that they were meant for stimulating thought only and should not be used in direct practice. However, whatever the arguments models are being used directly in practice and RLT intended their model to be used in practice (Roper, Logan and Tierney 1996, Newton 1991). It is clear however, that the model does not completely reflect practice as is evident from the results of this study, where the model is not reflected as recommended by the authors. The model remains relevant and useful as stimulation to the nurse, challenging her mental model (Wimpenny 1999) and reflecting meaningful sections of the model in care. This supports the view that models are relevant as tools for thought as interpreted by the nurses using them. The difficulties and frustrations of directly applying models to practice has undoubtedly contributed to the reluctance to use them.

The metaparadigm of person, health, environment and nursing establishes the common features of all models in nursing, giving a global view of the alternative perspectives in each. While this gives a common framework from which to view models and is useful as such, it is not helpful for critically evaluating models, as it is too vague and global. Thorne et al (1998) critiques the metaparadigm as dichotomising these elements resulting in polarisation of the views of nursing encouraging competition rather than promoting a common core of understanding in nursing. The metaparadigm then is not helpful in evaluating models but useful for identifying core concepts.

Fawcett (1995) argues that model cannot be tested, however, McKenna (1997: 238) questions this. "If (models are) untested should they be used to underpin client care?" In some sense this question has come too late, as models are being used to give care and the confusion already exists. Wimpenny's (1999) suggestion of evaluating it against the mental and surrogate model, identifies where the reasoning and cognitive patterns of the nurse are the focus rather than the theoretical model, where confusion between its use for thought or practice is. This study represents a move towards clearing confusion by looking at the way the model is expressed in care (surrogate and mental model, Wimpenny 1999) and comparing these with the theoretical RLT model and patient views that can influence and inform the surrogate model. It is suggested for future research that the practice of nursing be the focus of the study comparing it with the model and focussing on developing the mental model of nursing.

Conclusion

This chapter has identified and criticised aspects of the methods and analysis, drawing attention to factors that influenced the results, including the role of the practitioner researcher. This position is interpreted as being valuable and unique rather than a disadvantage. Issues of analysis, are addressed including trustworthiness and reviewing choices that were made during the analysis. The value of using the three data types in the study is also examined, as well as the importance of using frequency hierarchies.

The practitioner researcher position is found to be perceptive and useful, although tensions exist between the two roles. It is concluded that the advantages out weigh the limitations, for example

trust in staff, using interpersonal skills, familiarity with the ward and insider knowledge. It is also suggested that the practitioner researcher role may lessen the impact of the Hawthorne effect.

Several suggestions are made concerning the data collection sample and methods, including the use of a smaller sample, and the possibility of using a case study approach in future studies. The care plans are also identified as social constructs in their own right, giving an interesting perspective of care.

Models presented as the 'ideal' of nursing, are useful in their comparison with nurses giving care and their own internal model, helping to identify the role of nursing more clearly and giving scope to develop professional knowledge. The metaparadigm as a framework to understand the nature of nursing models is useful but is too global to assist as a framework for models in practice.

A hierarchy structure is emerging from care and found to be relevant in practice. Frequency hierarchies are also found to be useful tools for data presentation and analysis. In this study the frameworks for theory evaluation are found to be excellent for factual explanations e.g. exploring the history, and origins of the model (an objective view), but do not explore the subjective view of practice. It is in this arena that models of nursing must be investigated further. The following chapter discusses the results before examining the implications of this work.

CHAPTER ELEVEN

The Discussion and Conclusion.

Introduction

This concluding chapter presents the findings of the data analysis. Four themes are identified from the data:

1. a hierarchical element of care,
2. a common core of needs between long and short stay patients,
3. different perspectives of care between patients and staff, long and short stay patients,
4. partnership in care.

In addition to these, four sub-themes were also identified relating to partnership:

Problems versus needs

Active patients versus passive patients

Physical versus psychological needs

Future versus past experiences

The RLT model is considered in the light of these themes and sub-themes and an argument made that a balance is required between nurse and patient centred care. These themes are linked to concepts outside nursing through a discussion of holistic care and partnership. The experiences of the patients and staff, uncovered in this study by the use of a frequency hierarchical framework, also have an impact on clinical care and are relevant in light of recent government papers (D.o.H. The New N. H. S. 1997, D.o.H. Our Healthier Nation. 1998).

The following four themes were identified from the data using the frequency hierarchies. These represent an extension of the data analysis through re-interpretation of the codes as described in chapter nine.

A Hierarchy of Care

In this study, a hierarchical framework was used to explore the relationship between the codes. A hierarchical structure was found to fit with the data, where staff were already demonstrating a hierarchical structure in care, and where staff activity, practice and recording of care, could be fitted into a frequency hierarchy as discussed in chapter eight. This is found to be relevant to the

concept of practice, where staff are prioritizing the problems, needs and issues in the care plans, as was suggested by the order of the care plan indexes in appendix 12.

The relationship between occurrence and priority, is not direct. If something happens frequently it does not mean it is more important than something that occurs only once. However, the occurrence of a code represents actual time spent addressing a care action in the observations, the patients raising it in the interviews, or staff recording it in the care plans. Whilst acknowledged as not being necessarily the most important or highest priority of care, they represent legitimate care issues occurring on a daily basis, and as such are significant to reflect how care is given.

A Common Core of Needs Uncovered

The theme arising from the analysis and comparison of the long (figure 9.11) and short stay patients (figure 9.12) was that they were strikingly similar in the identification of problems and needs (figure 9.13). The care of long and short stay patients occurred over different time scales, but a common core of needs between the two groups in orthopaedics care, emerged.

This raised the idea of the significance and relevance of a common core of needs in other areas. Would they have a similar common core? However, parallels of this core of needs and problems, with other areas of nursing may be useless as the issues, needs and problems encountered in other areas would be different from those in orthopaedic care. For example the core of needs on a maternity or intensive care ward, although having some similarities, would be inconsistent and inappropriate with the needs identified in orthopaedic care. To use the results in such a way would contribute to the idea of the universal model with its inherent compromising that leads to generalities, which do not inform nursing and are incapable of encapsulating and meeting the wide variety of needs in other specialties. The results of this study do have a general relevance, that raises questions for other models of care, similar to Roper, Logan and Tierney, but the results themselves are not directly transferable to other areas of nursing and would only be of use in the orthopaedic environment. This identifies a need for research in other areas.

Nursing was dominated by the medical model (chapter 2), which encouraged a reductionist view of the body as a machine, and illness as a breakdown of that machine, where treatment of illness became synonymous with repair of the machine (Cull-Wilby 1987, Field and Winslow 1985,

Van Maanen 1990). Other visions were developed over time, seeing the person as more than just disease, indeed a composite of physical, psychological, social and spiritual dimensions. Most nurses understand the limitations of the medical model, and its drawbacks for care when viewing the person as an object. Some ideas in nursing models may be equally untenable for some nurses. For example Rogers (1980) developed a "unified fields of energy" model.

The emphasis on physical, psychological or fields of energy may vary between health care setting and the perspective adopted. Most people who visit health care settings present with a physical concern that may be related to other issues. But physical problems often form the contact point between nurses and patients (Thorne et al 1998). For example consider a patient with multiple trauma presenting with poor pain control, it may soon become apparent to the nurse that he is overwhelmed and terrified about walking again. In this way nurses deal with both the physical and emotional needs. The common core of needs leads nurses to identify other individual issues in care.

This study does not advocate the use of universal models that claim to be all encompassing, but the results of the long and short stay comparisons suggest, and outline, a common core of needs that is pertinent to orthopaedic care. The RLT model, with its emphasis on individuality and patient centred care, does not deny that similar patients require similar treatment. However, it does not address the reality that all suspected fractures require certain needs to be fulfilled, for example an x-ray, urinary assessment or immobilization etc. The same can be said of a head injury, spinal injury or an ankle fracture. Each type of injury requires similar care and the nurse uses this common core of needs to plan care, adapting it to individual aspects relating to each individual patient.

The individual needs are often so varied and complex that the sheer volume of differences would overwhelm any model that attempted to include the rich variations that make patients who they are. The nurse may try to incorporate as much as possible of these variations in to care, but it cannot be truly individual, in the sense that it is completely different for each patient, as the treatment for care is similar from one patient's fractured wrist to another.

This is significant when considering the care giving systems that exist on different wards (Nelson 2000), for example task allocation, team nursing, primary nursing (Manthey 1980, Wright 1991), or case management (Zander 1990, Balbir et al 1992, King 1992). The

acknowledgement of a common core of needs and problems for patients with similar injuries releases staff from pursuing the goal of totally holistic and individualized care and is a useful realistic representation of care. This fits particularly well with the increasingly popular care delivery system of case management that is used in North America and in the UK. Each patient, depending on their diagnosis, is commenced on a pathway of care that reflects the possible options for care, for example all fractured neck of femurs have the same core care plan, as they all require similar care. The staff individualise care to each patient depending on the needs or problems encountered in that one patient, so in this way care is tailored as much as possible to the individual (King 1992).

The establishment of a common core of needs in orthopaedic care may encourage the nurse and patient to work together in partnership towards common goals, potentially increasing satisfaction for patients and staff and arguably achieving goals of care more directly. Such an approach would fit well within a primary nursing or a case management structure.

In data analysis the data was separated according to source, i.e. into long and short stay patient data and entered into the frequency hierarchy. A common core of needs was found when the long and short stay patients were compared. For example information giving, pain, safe environment and mobilizing occupied the same occurrence in the long and sort stay hierarchies. This gave insight into the role of the staff in this setting i.e. the same issues are evident in the case of long and short stay patients. This supports the model to a degree, in that, the same needs and problems are relevant for each group despite different lengths of stay. This has implications for practice where care delivery systems offer a standard core like case management (Zander 1990, 1987, King 1992) may benefit practice. Acknowledging a common core of needs in nursing enables the nurse to take a more flexible route of care delivery and focus on tailoring individual aspects of care.

Different perspectives of care

The staff hierarchy (figures 9.5, 9.6 and 9.7) is almost the complete opposite of the patient's indicating that the patients and staff hold very different ideas and aims about care, a difference which has been noted before in previous research (White 1972, Roberts 1982, Biley 1989, Farrell 1991). The staff's activities of care in this study were found to resemble Maslow's theory where the physical needs dominate, followed by the psychological feeling of safety and belonging. The

physical needs selected and addressed in care by the nursing staff in these hierarchies could be an influence for the medical model being used by the medical staff. Current medical services still predominately concentrate on anatomical, physiological and biochemical causes of ill health (Aggleton and Chalmers 2000). This reductionist view, that was once dominant, is beginning to change. Staff now recognize that a balance between physical and psychological issues is desirable. However the study of anatomy and physiology still dominates much of medical training, which in turn influences the way care is given to patients by staff.

The goals of care in this study were patient centred but there was little evidence to show that patients were being consulted or involved in agreeing goals, or in making decision about care. In the interviews there was evidence that patients did not want to actively participate in decisions about care, although they did want to be kept informed. This suggests, that patients are interested in the plan of care and want to know what to expect, but do not necessarily want to be taking part in decisions. This has implications for care, where it is generally accepted that patient involvement in deciding a course of action, is a good thing and to be encouraged.

The data suggests that the Roper, Logan and Tierney model is limited, with its view of problems tending to be negative (chapter three) and restricted by the activities of living (AL), which do not identify all the legitimate needs of patients and staff. The model's central themes of holism, patient centred care, and individualized care, (chapter three) create tensions between the patient and staff. This is exposed in the study, when the emphasis on patient centred care in the model, creates difficulties for staff delivering care. The model does not acknowledge that staff managing care also have requirements that must be met and are a vital component to care, for example staff documentation (U. K. C.C. Guidelines for Records and Record Keeping 1998, Hail et al 1997, Webb and Pontin 1997).

The comparison of the patient and staff hierarchies reveals the common ground between the two (figure 9.9). This is surprisingly small and raises implications for care, if it is to move towards an increasing partnership between patients and staff. Staff could relinquish power in care by giving knowledge to patients so that patients are in a position to make informed decisions and accept some responsibility for their care as discussed later in this chapter. The patients' and staff perception of care has been outlined in the orthopaedic environment in this study. Awareness of difference can be used as a platform from which to bridge the gap between staff and patient aims and expectations. The emergent patient perspective and the emergent staff perspective occupy

different positions, a re-adjustment of both positions, to something in-between, informed by both views, will direct care and its progression to encourage increasing responsibility of the patient, and partnership with staff.

The needs and problems of the patient were established from the patient interviews. These gave an idea of how patients perceived care and the role they expected to play. The care plans explored a version of the staff perspective of patient needs. This left scope for improving the partnership aspect of care by working towards mutually acknowledged issues of care. This engages both the patient and staff in negotiation of care between their two different perspectives of practice leading to the agreement of appropriate care.

In care these two different perspectives can be reconciled through negotiation and partnership between patients and staff during care giving and receiving. Where staff, through information giving can empower the patient to be able to accept responsibility for their care. The Roper, Logan and Tierney model influences the staff's perspective of practice, leading to tensions between the different views, for example, holistic care as an unobtainable goal where holistic refers to the whole psycho-social-biological being interacting with his environment. The frequency hierarchies show the differences between the two views. Using the text examples these differences have been classified into themes that show the view of the patients and staff (fig 11.1). These classifications do not represent the absolute position of the patient or staff, but portray the tensions between these stances, which are negotiated during care. Figure 11.1 represents the extremes of both groups and indicates the point from which each is working. The themes identified are negotiated between the patients and staff in care.

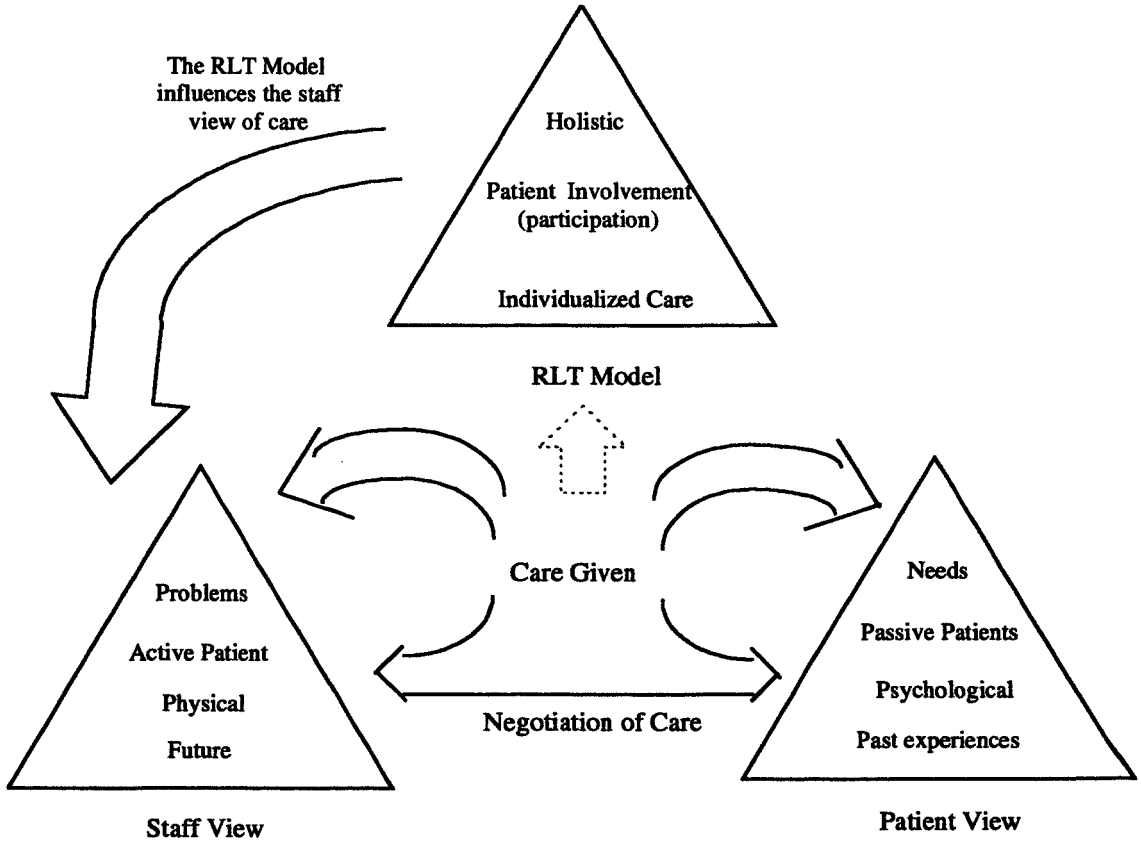


Figure 11.1 The Classification of Partnership in orthopaedic nursing care, showing the staff and patients' perspective of care reflected in the data.

Partnership in care

Fig 11.1 addresses partnership issues in the acute orthopaedic setting and identifies the different perspectives of care. These offer platforms from which to bridge the differences. The data provides insight into the different perspectives including the frequently occurring issues identified, from which staff can work towards collaboration. This incorporates both patients and staff's issues in care, encouraging and supporting some responsibility from the patient and maintaining the staff's autonomy without overloading the patient. Four sub-themes of partnership are shown in fig 11.1, showing partnership in practice achieved through negotiation. These are as follows:

Problems Versus Needs

The Roper, Logan and Tierney model states that the twelve activities of living are the core of the model (Roper, Logan and Tierney 1996: 35). On exploration of how the model is reflected in practice in the orthopaedic environment, the problems identified became the focus of care in the care plan, rather than the twelve activities of living, as found in the care plan indexes discussed in chapter six and eight. The use of Roper, Logan and Tierney's model encouraged the identification of problems and difficulties in care and as such it is problem centred. The interview data suggests that this did not fit with the staff and patients' view of care and did not address all of the issues raised in daily care.

In comparison the patients' view of care centres on needs that include some of the problems identified by staff, but are comprised mainly of the needs that are expressed frequently by the individual. Endacott (1997) argued, that the notion of 'want' was close to need and that a need represented a necessity and a deficit, identified through a value judgment (see chapter two and eight for a fuller discussion of this point). In health care this recognition of a need could involve the patient, relative or staff.

The notion of 'problems', as discussed in chapter three and earlier in this chapter has a negative connotation that does not reflect the patient's view of care, where the 'problems' and the 'activities' become the focus of care rather than the person (McClune and Franklin 1987). This reductionism, potentially leads to mechanistic care that deals with each problem separately and does not necessarily acknowledge the relationship between those problems. Needs, however, reflect essential wants and are more positive and inclusive of the issues in care; that is needs deal with care in humanistic terms that allows the acknowledgement of the relationship between care issues (Endacott 1997). In using needs as well as problems as a framework to give care, staff can realistically address the issues significant to both patients and staff.

Holden (1991b) discussed the use of needs in care giving and identified that some patients for their own reasons are reluctant to 'get better'. They may feel unable to leave the sick role and resume their normal roles. The social implications of illness influence the patient, whose definition of "health" and "illness" is subjective. This recognizes the difficulties of reconciling wants with professionally defined needs, what the patients 'want' does not always correspond

with the patients' need as defined by staff. Through negotiation of care with the patient legitimate needs can be agreed.

Staff by concentrating on the patients' legitimate needs have a professional responsibility to manage care through negotiation with the patient, potentially frustrating patients as their expressed wants are not met. This may lead to non-compliance from the patient, but negotiation between the patients and staff could over come this. Care could be agreed and psychological issues addressed, rather than the acceptance of non-compliance and the labelling of patients as "difficult". The patients could make informed decisions and as a result, compliance may follow (Holden 1991b).

Active patient versus Passive patient

Current emphasis on the involvement of patients in their care has been widespread in the UK. Managers and staff are adopting this central tenet of care. It has been presented in the nursing press for some time and seen as desirable (Abdellah et al 1960, Lott et al 1992, Kenny 1990, Salvage 1990, Partnership in action D.o.H 1998, The New N. H. S. D. o. H. 1997). However, as Caress (1997) argues the assumption that active participation is welcomed by all patients is far from true. Caress identified the influence of demographic variables, where younger patients preferred more participative roles, indicating that nurses may be required to adopt more participative roles in the future. The Roper, Logan and Tierney model supports active patient participation in care, wherever possible, and takes the view that it encourages patient's responsibility and autonomy (Roper, Logan and Tierney 1996). Patient participation in care has emerged as an increasingly important principle in health care. It gained added emphasis during the 1980s where care was focused on the consumer. The Roper, Logan and Tierney model does acknowledge that not all patients will wish to participate in care (Waterworth and Luker 1990, Tmobranski 1994) and that it is the nurse who must mould care in the desired manner.

In this study the observations contained examples where staff attempted to involve patients in decisions about care. Staff rarely received a decisive answer and the patient often turned the question back to the staff. This agrees with previous research that showed patients can sometimes prefer to be passive, leaving staff to make decisions concerning care (Beaver et al 1996, Waterworth and Luker 1990). This could mean that patients did not feel they had enough knowledge or confidence to make decisions about care, or whilst they were in the sick role

(Bond and Bond 1994) they resisted responsibility and relied on the nurse. This was evident with simple questions, for example, "Would you like a bath or shower this morning?" "What would you like to wear today?" often, even in such personal matters they left the nurse to choose for them. This behaviour in taking decisions could be influenced by patients wanting to avoid becoming a burden or nuisance to staff. The patient may be seeking to please the nurse by letting them decide about care, trying to fit in with the staff. This was also reflected in the interviews where patients identified they did not want to be "a bother" or any trouble. In this study the care plans also showed little evidence of active patient involvement in care.

The model encourages active participation of the patient (Roper, Logan and Tierney 1996: 52). The staff view of care is influenced by this in this study and acknowledges instances where the patient is offered opportunities to contribute to more serious care decisions. The patient, however, may or may not wish to participate. A process of negotiation concerning care occurs, for example, the nurse offers the patient the opportunity to take partial responsibility for care, and in that instance it may be accepted. Caress (1997) identified key points that influenced patient participation, including: patient participation is based on the individual and some will not wish to actively participate, trust in staff, patient knowledge, severity of condition and seeking information is not equal to seeking participation.

This study has instances where the patient does not feel they can take such a decision, and then the staff assumed control over care. There are examples in the data where the patient is reluctant to participate in care and staff persuade them to participate e.g. when learning how to walk with crutches. It is from these conflicting views that partnership negotiation between the patient and staff occurs. Through negotiation, care for individual patient's can be agreed from different perspectives of patient involvement.

The results in this study suggest that staff are aware of the advantages of active patient participation in care and attempt to address it (as found in the patient interviews and observation data). Patients however, still let staff dominate care; It is the staff that are currently shaping care with their experience and knowledge but they do take into account patients' and relatives' views and feelings.

Recent, and on going changes in the national health service, in line with government thinking, advocates that care should be individually focused on needs and quality, rather than driven by

cost. The internal market has been replaced with 'integrated care' that will be based on partnership and performance rather than competition (The new N. H. S. D.o.H. 1997, Our Healthier Nation D.o.H. 1998). The new N. H. S. policy document (1997) states that the needs of the patient will become central to care and that doctors and nurses will contribute and help shape services, as they will be more closely involved in designing services to meet clinical needs. The idea of partnership is identified as being increasingly important in this ten year plan for the N. H. S. Partnership has implications for the staff at a clinical level with proposals for integrated patient care, where staff fit their different roles together to reach a shared understanding and aim for seamless care. The support of advanced nurse practitioners that take on leadership and educational roles whilst also setting up nurse led clinics and district wide services are encouraged in this policy document. This paper suggests that "patients too, must take responsibility for their care and as part of the New N. H. S. charter will balance the patient's rights for access with their responsibility to use services wisely" (The New N. H. S. D.o.H. 1997: paragraph 1.19). The New N. H. S. (1997) document stresses the importance of the involvement of clinical staff and support staff at ward level as vital to the success of these ideas.

The RLT model and other models, advocate placing the focus of care on the individual and encourage patient involvement in decisions concerning care. Recent publications by the D.o.H., Our Healthier Nation (1998), and The New N.H.S. (1997) also advocate increasing involvement and responsibility of patients in care. The balance of power is however, weighed heavily in the staffs' direction as they have knowledge and experience about guiding care. It is they who must make room for and allow the patient to participate. Generally patients are unaware of the many issues influencing care and are ill equipped to take such decisions. Taken to its extreme the patient could direct care completely. This would be inappropriate for most patients as the majority lack the information, energy and insight on which to make decisions concerning care. It would also lead to conflict between patients as limited resources and loyalties could be challenged by the choices made.

This raises issues that are relevant to care. Do patients want to, or have the knowledge to contribute to care in this manner? At which point should staff assert control and where do nurses stop the patient from leading care? These issues are pertinent to the RLT model and others, as the boundaries for these are far from clear and will change from patient to patient, according to their experiences and legitimate needs. Caress (1997) recognized that the knowledge level of patients influences their potential for participation. If they are informed about a care issue, they

feel more confident to participate in care. The imbalance of power that exists between staff and patient inhibits them from participation in care (Freidson 1970). So, by giving patients information and leaving scope for negotiation, staff can reach an appropriate level of active involvement for each patient.

Physical verses Psychological needs

The needs and problems for the patients and staff were identified in the patient and staff hierarchy (figures 9.4, 9.5 and 9.6). The patient's view (figure 9.4 and 9.7) showed that patients were focusing on psychological aspects of care with the codes *control, feel, experience and reminiscence,* the physical aspects and the Roper, Logan and Tierney model were to be found further up the hierarchy and the patients gave less attention to them.

The high placing of the code *control* (figure 9.4) and the patients' reluctance to be involved in making decisions about care seemed to be a contradiction. The presence, however of the *feel* code at the same level and on examination of the text, showed the patient did not want to be seen as a nuisance. It was important for them to be valued and perceived as a good patient. The emerging view was that patients did not want to be making decisions about care but wanted to fit in and be as helpful as possible. Patients' not only relied on staff to take decisions, but also gave the control back when put in a position where they could make a decision. Perhaps as they felt they would take a wrong decision upset staff and be labelled as a bad patient. As identified in previous research (Beaver et al 1996, Waterworth and Luker 1990).

When compared with Maslow's hierarchy the patients' view of care was inverted. The higher psychological needs were found at the base. The physical needs from the patients' perspective were given less emphasis than the psychological. This is due to staff assuming the responsibility for the physical needs of the patient, so that the patients do not have to consider them themselves. It is possible that staff assume the responsibility for managing physical needs, which then allows the patients to reflect more on the psychological elements to care.

The new N. H. S. (1997) a policy document, states that patients are to be encouraged to take responsibility for care and how they use the health service. If staff assume all the responsibility of care this prevents the patient from emerging out of the sick role (Bond and Bond 1994). This role can be entered into when becoming ill, it releases them from their normal role, housewife, or

businessman and legitimately allows them to remain passive and limits their independence. Staff can resist the temptation to manage everything for the patient. They can encourage the patients to take a more responsible active role.

In this study the RLT model can be said to contribute to the focus on physical issues by the staff, as it is physically based, that is, parallels can be drawn between the systems of the body and the twelve activities of living. The medical model as discussed earlier in chapter three also influences the Roper, Logan and Tierney model. It is arguable that the setting of orthopaedics is particularly reductionist, where patients are referred to by staff as a diagnosis e.g. fractured necks of femurs or ankles and as such, physical issues are emphasised.

It has been suggested that the medical model promotes dehumanising and compartmentalization of patients (Holden 1990). She suggests that it is the doctor and nurses who label the patient as a diagnosis and not the medical model. Holden (1990) identifies it as the responsibility of the doctors and nurses to perceive the patient in a way that does not dehumanise them. The work of Menzies (1988) identified mechanisms that protected the nurse from anxiety whilst nursing, compartmentalising and the focus on physical issues found in the results may be seen as manifestations of this, which serve to distance the nurse from the patient.

The focus on physical rather than psychological issues may protect the staff to a degree, as they are perceived as factual and certain. These are put forward to the patient as the complete picture, when on a theoretical level the staff are fully aware of the complexities that are not always presented to the patient. The staff present an all-knowing professional front. Psychological issues are not perceived in this way. They are uncertain and less easy to handle in care (Holden 1991b). It may be for these reasons that physical issues are most frequently occurring in the staff frequency hierarchy. The link between psychological and physical problems cannot be denied one influences the other, for example, breathing is effected by emotional events such as shock and anxiety causing an increase in breathing and pulse rates. Grieving and depression may also affect the rate and depth of respirations. The body reacts physiologically to anxiety and this reaction can be of a long duration. The identification of these two different perspectives provides insight for the nurse to involve the patient in physical aspects (wound care or exercises) while being sensitive and acknowledging the patients' psychological state.

Future care versus Past experience

The care plans showed the staff perspective of the patients' needs. They worked at moving the patient nearer to discharge. They did this by comparing how they were at home before they came into hospital, assessing their current state and what was required to be achieved so that they can resume this life as much as possible. The staff examined the patient's past using the nursing process, but the emphasis for care was on what needs were to be achieved before they could go home (the future). This is manifested in the data, through evidence of multidisciplinary meetings, conversations between staff and patients and the care plans, which are focused on future goals of care and what needs to be achieved. For example:

Pt "The nurse came and had a chat with me and told me the plan, for them to put my cast on and then I get to see the physiotherapist, try me on some crutches. Then hopefully after that I should be let out". (Interviews)

The following patient's view towards care contrasts with the above, as it was set in the present, what is happening now and also their past experiences, where they had been in hospital before and the reason which caused them to be in hospital now for example

Pt "I went down and had my operation ... I felt em a bit depressed about, because I didn't know what was going to happen to me cause I had never ever, as I say been in hospital ... the next thing I knew I had a mask on my face, I was being brought back into a part of the hospital on my own and I felt better, I could relax ... If someone had said to us now look you are going to be all right, eh we are going to take care of you, I would have felt better."(Interview)

The actual care given may be negotiated from these two positions. Staff direct the patient towards future goals of care, giving them information about the future plans of care, and patients use their past experiences and knowledge of themselves to influence care.

It has been argued by Haigh et al (1996) that the use of the nursing process over simplifies the decision-making process where assessment, planning, implementation and evaluation should be a team activity involving other health care professionals. Implementation and evaluation have a close relationship with time, where care is advanced within a time scale. Nursing models, however, do not emphasize the time aspect that exists in care. They acknowledge the age of a patient and what stage of life they are at and through the nursing process the setting of goals, but they lack the direct emphasis that staff deal with when delivering care. The impetus to manage

care effectively within a set time scale is often lost, as goals are not met and postponed (Haigh et al 1996).

Issues relating to the themes identified in the data

Legitimate need

The concept of need is value laden (chapter 2), legitimate needs can be defined as identified needs that merit fulfilling, as opposed to needs that do not require addressing by patients and staff. Once identified a need requires action to satisfy it, inaction results in dissatisfaction for the person with the need and the need remains. Some needs are considered illegitimate by the individual, nurse or society and therefore not acted upon. Other needs perceived as legitimate are acted upon (Endacott 1997). There is an element of power involved in this decision as to who is deciding, which needs are legitimate the nurse, doctor, or patient may have conflicting ideas about which are met. The patient is in a particularly vulnerable position.

The results showed that some of the identified NIM codes, occurred more, than some of the activities of living. For example the codes *pain* and *skin* (chapter 7). Many needs of care can be identified, but not all can be met and the patients' and staff perspectives may be different. The inclusion of needs in care can be argued as adding to the difficulties already created by the Roper, Logan and Tierney model, where the nurse cannot possibly fulfil all of the needs and problems that can be identified. Lauri (1997: 346) concluded that a "major problem in the use of needs classification has been the tendency to swallow them whole, without asking any critical questions about whether nursing can really respond to all the needs that people may have". Endacott (1997) explored the concept of need and identified the multifaceted nature of needs through concept analysis. She argued that needs could be classified in a variety of ways including Bradshaw's (1972) taxonomy of need (normative, felt, expressed and comparative) and Maslow's hierarchy. Endacott (1997) found that in health care, needs may be legitimized by someone else rather than only self-defined need. Need identification was also influenced by the ability of staff to meet the need itself.

Endacott (1997: 475) went on to say, "When a need has been identified, action is recognized as desirable ... Inaction will result in dissatisfaction and the continued presence of the need". The reverse of this would also be true. An issue that was identified but not considered legitimate e.g.

a patient's desire to smoke on the ward would not be recognized. This would help explain why some needs were identified in the observations representing the reality of care, but not acted upon in the care plans. This could be because they were not noticed or that the nurse did not perceive these as legitimate.

The idea of legitimate need leads us to consider the way needs are perceived. Who decides which needs are legitimate and whose needs are they? This point was clarified in the interviews, where the patients identified issues that did not surface in the care plans. Staff may recognize these patient needs to be important to the patient, but other needs in the nurse's perceptions will take precedence, and until these have been satisfied the patient's needs will be secondary. It is recognized that this is open to interpretation. Staff perception of the needs of the patient could take priority over the patient's own identified needs. For example the judgment that smoking is not allowed may alter if it was a terminally ill patient, who wished to have a cigarette. Thus the idea of legitimacy allows the staff to include in their role the selection of those issues, needs and problems that are perceived to be valid and they can act accordingly.

Power and control in care

When planning care, staff take into account both the ALs and the NIM matters as demonstrated in the care plans. With their knowledge and judgment staff select the issues to included in the care plans. In conjunction with this is the idea that staff are contracted to the patient through the health authority and professional bodies (e.g. UKCC) and as such are responsible for selecting the issues to be addressed in care, using their professional knowledge and internal mental model to the best of their abilities. In light of this, the difficulties thrown up by the existence of multiple needs in care and the issue of holistic care can be contained. For example, staff can choose to not address the issue of sexuality in the care plan, as it is not perceived by staff to be a pressing issue in this sample.

This raises the issue of power and control in care. The principles of advocacy suggest that empowerment, control and choice are fundamental to patients (Kinghorn and Gamlin 1996). The empowerment of patients by nurses may be seen as a mechanism through which patients can achieve greater control over interactions with nurses. However, Stevenson and Cooper (1996) argued that the patient, who is a passive recipient of power, is not actually empowered and that this represents a power play by the professional who remains in control.

The RLT model in the assumptions on which the model is based (chapter three), portrays the patient as an autonomous decision making person in partnership with staff who assist the patient. However, the power relationship between patients and staff is not equal, staff with their knowledge are in a strong position. Knowledge and power are interlinked, for partnership to occur there must be a relinquishing of this power. One way to do this is through the sharing of knowledge. The nurse, with her professional knowledge and experience, arguably maintains control, although the patient has been empowered.

The nurses' experience and knowledge gives insight into the needs to be met that the patient may not appreciate. Difficulties can arise in care when the nurse is unable to determine between reasonable needs. This results in an overload of problems and needs, which cannot be met. An example of this is inexperienced junior staff, who attempt to fulfil every need of the patient and the model. Senior staff may also experience difficulties when the needs and problems required to be met are all legitimate and are more than can be dealt with. This happens in emergency situations. At this point it is the individual, using his / her own experiences (mental model) and professional knowledge, who decides which needs are taken into account.

The nurse attempts to assist the individual to achieve these needs and cope with the best that can be done for the patient. This has been described as linear, branching and cyclical, due to the way problems and needs are met in clinical practice (Yura and Walsh 1978).

When the data in my study was explored through exploratory diagramming the results did not illuminate or represent the relationships identified in the data, in a way that was found to be useful or significant to practice, as they did not reflect the complexity of care in practice. I attempted to explore the data in this linear manner, and it failed to show the relationships of problems and needs in care and how care was managed, as shown in Figure 7.10, 7.11, 7.12, 7.13 in chapter seven. From these data displays and the evidence from the care plan indexes, a hierarchical approach was explored and found to fit with the data. It clarified the relationship between the Roper, Logan and Tierney model, and how staff manage it.

The first set of codes and occurrences were initially analysed in the frequency hierarchical framework (figures 9.1, 9.2 and 9.3) showing the needs, problems and issues of care. They show an overall impression of how care was structured, and revealed how the codes related to one

another. These disclosed that the twelve activities of living were not the only codes central to care and the other codes that were not identified by the model assumed equal relevance in care.

The hierarchy fits with the data and shows the relationship between the problems and needs, that were experienced when the RLT model was used, and how these are reflected and managed by staff. The hierarchy structure was also reflected in the care plan indexes of the nursing care plans where similar issues were found at the same level. I speculate that it is also possible, that the hierarchy structure is reflected in the evaluation records, where the key elements of care, as the nurse perceives them, are dealt with first. However, this was not investigated in this study.

Idealism and Reality

It is suggested in this study that the fundamental ideas of holism, and the additional ideas of individual care, and patient involvement in care, contained in the RLT model, may create difficulties in the practical setting, as they do not fit with the reality of practice and the wishes of the patient. These ideas, presumed by nurses and nurse theorists to be advantageous in practice, if taken to their logical extreme, are unobtainable and can never be fully achieved. For example, if every facet of the patient's life is considered and planned for, in the care plan, it would lead to time wasting efforts that do not contribute in aiding the nurse. An example of this in this study is where the AL, cleansing and dressing, was identified in the care plan for a patient who was independent in this aspect. It could be argued this problem existed only as a paper exercise to satisfy nursing audits.

The tension between idealism and reality of care is important. The model, using the twelve activities of living is intended to aid the nurse to identify goals of care. If these are not being used or achieved in practice, it may be that the nurses fail to understand the model or are not using it properly. Another possible reason is that the nursing care given in this instance was poor and this was why the model's goals were not used or identified. If this is so, the presumption that the model reflects practice is dubious, as it is not doing so.

The analysis of the care plans and observation data shows how care was recorded and given. The care plans and the observations did not suggest poor quality care; but shows the nurses going beyond the model and identifying needs and problems to suit the patient and themselves. This suggests that it is the model that has not incorporated all that is required in care. The model aims

to set an ideal standard for care that nurses can strive towards. This suggests that models are best suited as tools for thought rather than applying them directly to practice, in their entirety.

Conclusion

The main conclusions that can be drawn from this study are as follows.
Models of nursing claim to improve the quality of care the patient receives, contribute towards the professionalization of nursing and encourage patient centred care as discussed in chapter two and three. It has been shown in this study that the use of the RLT model alone in practice, only partly fulfils these claims and creates a new set of issues that must then be addressed. Using the RLT model alone does not make these contributions to nursing, but by using the model as a tool identifying the difficulties and advantages it creates in care, these new issues can then be resolved in care by staff. It is this action that moves nursing closer to a professional status rather than the unchallenged acceptance of a model in practice. Nursing models do present problems for nurses in practice, but it is how nurses manage these difficulties that develop practice in a meaningful way, not simply the presence of the model.

The RLT model also claims to encourage patient centred care by focussing on problems and activities as discussed in chapter three. The focus on activities lead staff to identify the individual needs of the patient in addition to the nurse centred problem being identified from the model framework as discussed in chapter seven. The RLT models problem centred approach is found to be too limiting, and staff go on to identify individual needs. This study found that although in theory the model encourages patient participation, in practice there was little room for the patients input into care.

In chapters two and three the literature shows that nursing models are based on little research and have been accepted unquestioningly as a guide for nursing research, practice, education and administration. The effect of models of nursing on care is all but unknown, emphasizing the requirement for the exploration of models in practice where unchallenged models form the basis of nursing care. This study identifies a need for further evaluation of nursing models currently implemented by nurses in the UK as discussed in chapter ten.

In this study the established frameworks for theory evaluation are found to be excellent for factual explanations e.g. exploring the history, and origins of the model (an objective view), but

do not explore the subjective view of practice. The criteria, evident in the literature, to evaluate models lack the dimension required for the exploration of models in practice. These frameworks are useful to examine the factual and objective content of models, but they do not address the use of models in practice from a subjective position as addressed in chapters two and ten. This represents a significant difficulty in a profession that is practically based. It is acknowledged that the abstract nature of nursing models creates problems in defining the propositions and assumptions that guide nursing, making them difficult to evaluate.

In chapters three and ten the metaparadigm concepts of person, health, environment and nursing are found to be too global a framework to be useful for critical analysis and evaluation of nursing models, but are useful for understanding the nature of many models of nursing.

Chapter four discussed how a qualitative, inductive approach can be used to explore nursing models in practice. The nature of models makes them difficult to test quantitatively, however qualitative methods are advantageous for studying models of nursing, as they are context aware and retain social, cultural and historical meaning.

Phenomenology is found to fit well with the practitioner researcher role in three respects, perspectives of interpretation, researcher participation and notions of reality, where it acknowledges the practitioner researcher's influence on data collection and analysis as discussed in chapter four. A phenomenological inductive approach with descriptive statistics offers a suitable methodology to explore nursing models due to their nature and the difficulties of investigating models in practice.

This study establishes the relevance of counting to qualitative studies and determines the extent of trustworthiness in the study through credibility, confirmability and auditability, which are discussed in chapter four and manifested in the study through chapters five, six, seven, eight and nine.

Data display using frequency hierarchies are useful aids to drawing conclusions and are proposed as a method of analysis to explore nursing models. Frequency hierarchies are useful as tools to analyse data, for qualitative research, helping to identify emerging themes enabling the exploration of themes and tensions in care as addressed in chapter eight and nine. Frequency hierarchies are also found to be useful tools for data presentation and analysis.

The role of the practitioner researcher is interpreted as being valuable and unique rather than a disadvantage. It is concluded that the use of a smaller sample for data collection and the possibility of using a case study approach would be beneficial in future studies. A hierarchy structure is present in care and found to be relevant in practice.

The implications for theory development in chapter ten are that there is a continuous need for nurses to develop and expand principles and concepts of nursing practice. More attention could be given to the difficulties of evaluating how the models are used in practice, and consideration should be given as to how this could be included. Creators of models should also consider how models could be evaluated in practice from a subjective viewpoint, as well as an objective view.

The RLT model

There are some key messages to feed back into the RLT model. A hierarchy of care exists. In this study nursing care is found to fit within a hierarchy of needs, issues and wants, where the concept of priority is active in care. Holistic care is present as an ideal, but is not realistically achievable in its entirety, therefore priorities are set to organize care. This could be incorporated into the RLT model by prioritising the issues identified in the care plans, in negotiation with patients and relatives.

The RLT model does not embrace the full role of the nurse and this is evident in this study of practice. The concept of "problems" is useful in care, but problems do not address all of the issues arising in care, and so these issues need to be addressed. It was found that nurses do not think in respect to Activities of Living, but they possess and are influenced by their own internal model of care. As expressed through the issues identified external to the model, staff and patients were found to perceive care differently. Patients have different needs and essential requirements and from these, issues arise which need to be addressed. From these different perspectives partnership and negotiation are required. Four sub-themes of partnership are identified, where patients and staff can negotiate care.

The RLT model does not represent the full reality of care, and should be used as a vehicle to encourage thought and discussion. It is a foundation, on which one can build and adapt to

accommodate a multitude of differing circumstances, however if a model or part of a model is not found to be useful it should be discarded.

Nurse education

The results of the study have raised several issues for nurse education in relation to the use of models in nursing practice. If models are presented to students as "the whole truth" with an expectation that they will be used in their entirety, without regard to all the different environments and situations, then teaching should change. Models should be presented as valued tools. They should stimulate thought and encourage the users to probe, innovate and adapt to every ward's specific situation. A questioning, rather than accepting approach to nursing models must be encouraged in nurse education. It is suggested that several nursing models are taught and compared rather than one advocated and adopted above all else.

In nurse training and education, emphasis should be made on how the nurses own internal model influences the theoretical model by adapting the model to the ward and patients. Experiences should be offered and aired to study how models are implemented, both in wards where the situation is very similar and in different ward settings.

Holistic care and patient involvement in care should be presented and taught as ideals to work towards, rather than being attempted by using a model alone. The four partnership themes identified in this study and discussed in this chapter, can be used as a teaching structure to outline and expand the concept of partnership in nursing practice.

The use of theory in practice

As previously intimated, models should not be used rigidly, nor unquestioningly adopted. The selection and implementation of the model should involve the staff, who are using the model. This would encourage ownership and promote adaptation. Staff should be aware that the metaparadigm is a useful framework to understand models, but offers little when it comes to evaluate them. It is too global and non-specific to be useful for evaluation. Models are not clear in their role for practice. They offer simultaneously both the ideals of practice to be aimed for, and the tool used to direct care. They attempt to describe the whole of nursing in its entirety (macro theory) whilst also guiding practice. The model may inform the nurse about care but may

not necessarily influence her actions. This should be borne in mind by educators and practitioners.

The emphasis on responsibility and partnership by the patient and staff has implications for care, in the light of the findings of this study. Staff and patients can work more in partnership, with responsibility for care resting on both the patient and staff, where appropriate.

The care plans as social constructs of the nurses gave insight into the model in care that would be difficult to achieve from staff interviews. The care plans possess a degree of structure but are influenced through the individual writer, analyzing the care plans gave an understanding of the social world in which they were created. The care plan analysis gave valuable insight into the underlying value and philosophies of care as described in chapter five.

The needs and problems of the patient were established as discussed in chapter seven and eight. This gave an idea of the patient perspective and the role they expect to play. Likewise the care plans show a version of the staff's perspective and their expectations of patient care. The area of common ground between the two is limited, leaving scope for improving the partnership aspect of care, by working towards acknowledged needs and problems of care as addressed in chapter nine and ten. This would engage both patients and staff in a compromise between their two hierarchies with the agreement of legitimate care issues. Partnership in care is an ideal in the context of practice, but understanding more about the relationship between staff and patients moves the idea closer to reality (Casey 1995).

For practitioner researchers there are conclusions to be drawn from the study. The first is that phenomenology is ideally suited for the practitioner researcher's position as discussed in chapter four, as the notion of reality in each approach is similar; and both approaches consider many realities. This phenomenological approach supports the practitioner researcher's position, where the researcher's interpretation is included and valued in the research.

Peer review and group critical analysis are valuable to the practitioner researcher and should be encouraged as discussed in chapter ten. Role tensions experienced during data collection were difficult to overcome, however not wearing a nurses uniform when data collecting helped to define the role occupied for patients, staff and relatives. This reduced interruptions during data collection and helped relieve role tensions for the researcher.

Practitioner research is eminently worthwhile as it links practice and theory in a fundamental way. It bridges the theory practice gap and demystifies the research process. It encourages the responsibility of nurses for their own practice, and contributes to debates and questions surrounding care, linking thought to practice in a relevant way.

Recommendations

The clinical field of orthopaedics and clinicians

In this study the physical elements of care are dominating orthopaedic nursing care. Nurses should be sensitive to and make efforts to increase the awareness of psychological issues in care. The four identified partnership themes can be used as an outline for increasing patient / nurse partnership in care.

Nurses should challenge models and question their suitability and use in an orthopaedic setting. They should identify where the model is of practical worth, and where it is problematic in practice. Nurses should actively engage in on-going evaluation of the model. This process should involve all staff. Problems and potential solutions to them, should be shared by staff, other wards, specialities and possibly other hospitals and teaching establishments, by sharing experiences with others using a similar model, in a similar setting, information on how common difficulties are managed would address the complexities occurring in practice.

The identification of a common core of needs between long and short stay patients has implications for care, and a primary nursing and case management approach is recommended as suitable for this.

This study does not express or recommend the indiscriminate decrying of the Roper, Logan and Tierney model, and models like them, but recognizes that staff must develop nursing models to make them meaningful to practice in a particular situation. Practising nurses must challenge models and appraise them critically, using what they find helpful and discarding what is not.

Future research

The recommendations of this study for further research are that there is scope for a continuation of the exploration of nursing models in practice, using a qualitative approach. Alternative settings should be investigated. A replication of this study, using an alternative setting would provide an interesting parallel to find out more about how models are being used, their qualities and strengths. The use of a case study approach to the research using a smaller sample of six patients, who each participate in an observation, interview and a study of their care plans, would also provide interesting comparisons.

An investigation to see if a hierarchy of care fits with other areas could be undertaken. Frequency hierarchies could be used as a tool for developing themes in qualitative research, for example, a medical speciality, or a community or mental health setting. This study has highlighted that the use of models of care across the UK is currently unknown and identifies a research opportunity to establish this.

There is much to be gained by using practitioner researchers to investigate nursing practice. This position gives a unique approach as discussed in chapter ten and chapter four. A practitioner has an insight which enables her / him to know the effectiveness of practice, and areas where there is scope for improvement. The practitioner researcher also gains a knowledge, which not only improves his / her abilities, but is shared vicariously by other staff, with whom she / he has contact. It is recommended that this kind of research should proliferate and be recognised as valuable.

REFERENCES

Abdellah, F. G. Beland, I. L. Martain, A. Matheney, R. V. (1960) *Patient-Centred approaches to Nursing*. Macmillan Company, New York.

Abell P (1990) Methodological achievements in sociology over the past few decades with special reference to the interplay of qualitative and quantitative methods. In: Bryant C, Becker H eds. What has sociology achieved? London: Macmillan, p. 94-116.

Acton, G. J. Irvin, B. L. Hopkins, B. A. (1991) Theory testing research: building the science. *Advances in Nursing Science*, 14 (1) p.52-61.

Aggleton, P. Chalmers, H. (2000) *Nursing Models and Nursing Practice*.2nd ed. Macmillan Press LTD. London

Aggleton, P. Chalmers, H. (1986) *Nursing Models and the Nursing Process*, Macmillan Education LTD. London.

Ahmed, K. (2000) Better N.H.S. is 10 years off top surgeon. Special report: the future of the N.H.S. *The Observer,* Sunday, October 15, p. 9.

Akinsanya, J. A. (1994) Making research useful to practising nurses. *Journal of Advanced Nursing,* 19(1), p.174-9.

Allen, J. (1995) Caring in nursing: rhetoric or reality, *Professional Nurse*, May. 10(8), p.8.

Allen, S. (1987) Arms extended. *Nursing Times*, 83(43), p.44-5.

Allen. M. N. Hayes, P. (1989) 'Models of Nursing: implications for research in nursing' (In McKenna, H. P. (1997) *Nursing Theories and Models*. Routledge.

Allmark, P. (1995) A classic view of the theory-practice gap, *Journal Of Advanced Nursing*, 22(1), p. 18-23.

Annells, M. (1999) Evaluating Phenomenology: usefulness, quality and philosophical foundations. Nurse Researcher, 6(3), p. 5-19.

Ashworth, P. D. Longmate, M. A. (1993) Theory and practice: beyond the dichotomy, *Nurse Education Today,* 13(5), p. 321-327.

Aspinall, M. J. (1976) Nursing Diagnosis: the weak link. *Nursing outlook* 24(7), p. 433-437.

Bailey, P. H. (1997) Finding your way around qualitative methods in nursing research. Journal of Advanced Nursing, 25(1), p. 18-22.

Balbir, K. Sandhu, R. N. Duquette, A. Kerouac, S. (1992) Care delivery modes. *The Canadian Nurse*. April, 88(4) p. 18-20.

Barker, P. J (1990) The conceptual basis of mental health nursing. *Nurse Education Today* 10(5), p. 339-348.

Barker, P. Ritter, S. (1995) Commentary. *Journal of Psychiatric and Mental Health Nursing*, 2(6), p. 325-327.

Barnum, B. J S. (1994) *Nursing Theory: Analysis, Application, Evaluation* 4th ed. Philadelphia: J. B. Lippincott.

Beaver, K. Luker, K. A. Owens, R. G. (1996) Treatment decision–making in women newly diagnosed with cancer. *Cancer Nursing*. 19 (1), p. 8-19.

Beck, C. T. (1985) 'Theoretical frameworks', In Nursing Research from January 1974 - June 1985, *Nurse Educator*, 10 (6): p36-8.

Becker, H. S. Geer, B. (1960) Participant Observation: The analysis of qualitative field data. In Adams, R. Preiss, J. (eds.), *Human Organisation Research: Field Relations and Techniques*, Home wood, Dorsey.

Bellman, L. M. (1996) Changing Nursing Practice through reflection on the Roper, Logan and Tierney model: the enhancement approach to action research. *Journal of Advanced Nursing*. July. 24(1), p. 129-138.

Betz, C.L. Beal, J. (1996) Use of Nursing Models in Paediatric Nursing Research: a decade of review. *Issues in Comprehensive Paediatric Nursing*. 19(3), p. 153-67.

Biley, F. (1992) Nursing Models redundant in Practice (Editorial), *British Journal of Nursing*, 1(5), p. 219.

Biley, F. (1989) Nurses perception of stress in preoperative surgical patients. *Journal of Advanced Nursing*. 14(7), p. 575-581.

Bliss-Holtz, J. Mclaughlin, K. Taylor, S. G. (1990) Validating nursing theory for use within a computerised nursing information system, *Advances in Nursing Science*, 13(2), p. 46-52.

Blumer, H. (1969) Symbolic Interactionisum, New York, Prentice – Hall.

Bond, S. Bond, J. (1994) Sociology and Health Care: an introduction for nurses and other health care professionals, 2nd ed. Churchill Livingston.

Boseley, S. (2000) Winston savages Labour N.H.S. "deceit". *The Guardian*. Jan 14th p. 4.

Boyd, M. Collins, L. Piptone, J. Baek, E. Kapustay, P. (1990) Theory Z as a framework for the application of a professional practice model in increasing nursing staff retention on oncology unit. *Journal of Advanced Nursing*, 15(10), p. 1226-1229.

Bradshaw, A. (1995) Review: What are nurses doing to patients? A review of theories past and present. *Journal of Clinical Nursing*, 4(2), p. 81-92.

Bradshaw, P. (1972) The concept of social need. In Endacott, R. (1997) Clarifying the concept of need: a comparison of two approaches to concept analysis. *Journal of Advanced Nursing*, 25(3), p. 417-476.

Briggs, A. (1972) *A Report On The Committee On Nursing*, HMSO, London.

Brydolf, M. Segesten, K. (1994) Physical health status in young subjects after colectomy: an application of the Roy model. *Journal of Advanced Nursing*, 20(3), p. 500-508.

Bryman, A. (1988) *Quantity and quality in social research*, London, Unwin Hymen.

Caress, A. L. (1997) Patients roles in decisions-making. *Nursing Times*. July 30th. 93(31), p. 45-48.

Carr, K. (1995) Using Orem's model in the care of adolescents. *Nursing Times*. June 21, 91(25), p. 36-37.

Carr, L. T. (1994) The strengths and weaknesses of quantitative and qualitative research: what method for nursing? *Journal of Advanced Nursing*, 19(4), p. 716-721.

Casey, A. (1995) Partnership nursing: influences on involvement of informal carers. *Journal Of Advanced Nursing*. Dec. 22(6), p. 1058-1062.

Cash, K. (1990) Nursing Models and the idea of Nursing. *International Journal of Nursing Studies*, 27(3), p. 249-256.

Castledine, G. (1993) New BMJ initiative to close the theory practice gap. *British Journal of Nursing*, 2(9) p. 478.

Chalmers, H. A (1990) Nursing Models: Enhancing or inhibiting practice? *Nursing Standard*, Dec. 5th, 5(11), p. 34-40.

Chalmers, H. A. (1989) Theories and models of nursing and the nursing process, *Recent Advances In Nursing*, 24, p. 32-46.

Champion, V. L. (1984) Instrument for Health Belief Model Constructs. *Advances in Nursing Science*, April, 6(3), p. 73-85.

Chapman, C. M. (1985) *Theory of Nursing: Practical Application*, London: Harper & Row.

Chinn, P. L, Jacobs, M. K. (1987) *Theory and Nursing a Systematic* Approach 2nd Ed Mosby, St Louis.

Chinn, P. L. (1985) Debunking myths in nursing theory and research, *Image: Journal Of Nursing Scholarship*. 17(2), p. 45-49.

Chinn, P. L. Jacobs, M. K. (1983) *Theory and Nursing a systematic approach*. St Louis, Mosby.

Chinn, PL. and Kramer, MK. (1995) *Theory and Nursing: A systematic approach*. 4th ed, St Louis, C.V. Mosby.

Church, S. Lyne, P. (1994) Researched - based practice: some problems illustrated by the discussion of evidence concerning the use of a pressure-reducing device in nursing and midwifery. *Journal of Advanced Nursing*. 19(3): p. 513-18.

Christensen, P. Kenney, J (1995) *Nursing Process: Application of Conceptual Models*, 4th edn. St Louis, C.V. Mosby.

Christensen, P. Kenney, J. (1990) Nursing Process: Application of Conceptual Models, 3rd edn. St Louis, C.V. Mosby. In Fawcett, J. (1995) Analysis and evaluation of conceptual models of nursing (3rd Ed) F. A Davis company, Philadelphia.

Circourel, A. (1964) *Method and measurement in Sociology*, New York: Free – Press.

Clarke, M. (1986) Action and Reflection: practice and theory in nursing. *Journal of Advanced* Nursing. 11(1), p. 3-11.

Clark, J. (1982) Development of Models and Theories on the Concept of Nursing. *Journal of Advanced Nursing*, 7(2) p. 129-134.

Clark, J. (1980) A framework for health visiting: A systems approach, part one: The application of systems theory to health visiting. *Health Visitor.* October, 53(12), p. 418-420.

Closs, S. S. Cheater, F. M. (1994) Utilisation of nursing research: culture, interest and support. *Journal of Advanced Nursing*, 19(4), p. 762-73.

Closson, B. L. Mattingly, L. J. Finne, K. M. Larson, J. A. (1994) Telephone follow-up program evaluation: an application of Orem's self-care model. *Rehabilitation Nursing*, 19(5), p. 287-292.

Conway, M. E (1985) Towards greater specificity in defining nursing's metaparadigm. In Fawcett, J. (1995) *Analysis and evaluation of conceptual models of nursing* (3rd Ed) F. A Davis company, Philadelphia

Cooper, N. Stevenson, C. Hale, G. (1996) *Integrating perspectives on health.* Open University Press. Buckingham. Philadelphia.

Corcoran, S. (1986) Task complexity and nursing expertise as factors in decision making. *Nursing Research,* 35(2), p. 107-112.

Cormack, D. F. S. Reynolds, W. (1992) Criteria for evaluating the clinical and practical utility of models used by nurses, Journal of Advanced Nursing, 17(12), p. 1472-1478.

Corner, J. (1990) *The Newly registered nurse and the cancer patient.* PhD thesis, Kings college, London University.

Craig, S. L. (1980) Theory Development and its Relevance to Nursing, *Journal of Advanced Nursing*, 5(4), p. 349-355.

Cull-Wilby, B. L. Pepin, J. I. (1987) Towards a Coexistence of Paradigms in Nursing Knowledge Development. *Journal of Advanced Nursing*, 12(4), p. 515-521.

Davies J (1995) A study of a family networks and relationships in community midwifery. In Reed, J. Proctor, S. (1995) *Practitioner research in health care: the inside story*. Chapman and Hall. p. 130-146.

Davis-Sharts, J. (1986) An empirical test of Maslow's theory of need hierarchy using hologeistic comparison by statistical sampling, *Advances in Nursing Science*, 9(1), p. 58-72.

DeHowitt, M. C. (1992) Kings Conceptual model and individual psychotherapy, *Perspectives in Psychiatric Care*, 28(4), p. 11-14.

De La Cuesta, C. (1983) The Nursing Process from Development to Implementation, *Journal of Advanced Nursing*. 8(3), p. 365-371.

De Vaus, D. A. (1986) Surveys in social research, George Allen and Unwin, London.

Denzin, N. (1970) The research Act in Sociology, London, Butterworth.

Denzin, N. K., Lincoln, Y. S. eds (1994) Handbook of qualitative research. Thousand Oaks, CA: Sage.

Dickinson, S. (1982) The Nursing Process and the Professional, status of Nursing. *Nursing Times,* supp 1 78(22), p. 61-4.

Dickoff, J. James, p. Weidenbach, E. (1968) Theory in a practice discipline: Part 1 Practice orientated theory. *Nursing Research*, 17(5), p. 415-435.

Dingwall, R. (1992) "Don't mind him - he is from Barcelona" Qualitative methods in health studies. In. Daly, J. MacDonald, I. Willis, E. (eds.) *Researching health care: Designs, Dilemmas, Disciplines*. London: Routledge.

Dobbert, M. (1982) *Etnographic Research*. Praeger, New York.

D. o. H. (2001) *Your guide to the NHS*. [online] www.nhs.uk/nhsguide [15 March 2001]

D. o. H. (1999) *Saving lives: Our healthier nation*. London Stationary Office

D. o. H. (1998) *Our Healthier Nation: a contract for health*. London: HMSO.

D. o. H. (1998) *Partnership in Action* (New opportunities for joint working between health and social services). A discussion document. London, HMSO.

D. o. H. (1997) *The New N. H. S.; a policy document*. London, HMSO.

D. o. H. (1996) *Patient Partnership: Building a Collaborative Strategy*. Quality and Consumers Branch, Quarry House Leeds.

D. o. H. (1995) *The Patient's Charter*. London, HMSO.

D. o. H. (1991a) *The Patients Charter*, London, HMSO.

D. o. H. (1991b) *Research for Health: A research and development strategy for the NHS.* London, HMSO.

D. o. H. (1993a) *Research for Health.* D. o. H, London.

D.o.H. (1993b) *Report of the taskforce on the strategy for research in Nursing, Midwifery and Health Visiting.* D. o. H., London.

D. o. H. (1992) The Health of the Nation: A strategy for health in England. London. HMSO.

D. o. H. (1994) *Supporting Research and development in the NHS* (Culyer A, Chairman). D. o. H. London.

Draper, P. (1993) A Critique of Fawcetts 'Conceptual Models and Nursing Practice: the reciprocal relationship'. *Journal of Advanced Nursing*, 18(4), p. 558-564.

Draper, J. (1992) The impact of nursing models. *Senior Nurse,* May / June,12(3), p. 38-9.

Draper, P. (1991) The ideal and the real: some thoughts on theoretical developments in British Nursing. *Nurse Education Today*, 11, p. 292-294.

Draper, P. (1990) The Development of Theory in British Nursing: current position and future prospects. *Journal of Advanced Nursing*, 15(4), p. 12-15.

Draucker, C. B. (1999) The critique of Heideggerian hermeneutical nursing research. Journal of Advanced Nursing, 30(2), p. 360-373.

Duff, D. (1997) Using Models in Learning Disability Nursing. *Professional Nurse*, 12(10) p. 702-704.

Duffy, M. E. (1985) Designing Nursing Research: the Qualitative - Quantitative Debate. *Journal of Advanced Nursing*, 10(3), p. 225-232.

Dyer, J. (1985) A model of care, *Nursing Mirror,* 160(17), p. 28-30.

Endacott, R. (1997) Clarifying the concept of need: a comparison of two approaches to concept analysis. *Journal of Advanced Nursing*, 25(3), p. 417-476.

Fagerhaugh, S. Strauss, A. (1977) *Politics of pain management, staff patient interaction.* Addison-Wesly.

Farrell, G. (1991) How accurately do nurses perceive patients needs? A comparison of general and psychiatric settings. *Journal of Advanced Nursing.* 16 (9), p. 1062-1070.

Farrell, C. Gilbert, A. (1996) *Health care partnerships: debates and strategies for increasing patient involvement.* (Promoting patients choice) London. Kings Fund.

Faucett, J Ellis V, Underwood P, Naqvi A, Wilson D (1990) The effects of Orem's self-care model on nursing care in a nursing home setting. *Journal of Advanced Nursing*, 15(6): p. 659-666

Fawcett, J. (2000) *Analysis and Evaluation of Contemporary Nursing Knowledge*: nursing models and theories. F. A. Davis Company, Philadelphia.

Fawcett, J. (1995) *Analysis and Evaluation of Conceptual Models of Nursing* (3rd ed). F. A Davis Company, Philadelphia.

Fawcett, J. (1990) Preparation for Caesarean childbirth: derivation of a nursing intervention from the Roy adaptation model', *Journal of Advanced Nursing*, 15(12), p. 1418-25.

Fawcett, J. (1984) Analysis and evaluation of conceptual models of nursing. F. A Davis company, Philadelphia.

Fawcett, J. (1992) Conceptual models and nursing practice: the reciprocal relationship. *Journal of Advanced Nursing*. 17(2), p. 224-8.

Fawcett, J. (1983) Hallmarks of success in nursing theory development, In Chinn P. (Ed): *Advances in Nursing Theory Development.* Rockville, MD, Aspen systems, chapter 1.

Fawcett, J. (1978) The what of theory development. In: *Theory Development: What, Why, How?* National league for nursing. New York, Pub. No 15-1708. p.17-33

Field, L. Winslow, E. H. (1985) Moving to a nursing model, *American Journal of Nursing*, October, p. 1100-1101.

Field, P. A. Morse, J. M. (1985) *Nursing Research: The Application of Qualitative Approaches.* Rockville, MD, Aspen.

Fitzpatrick, J. J, Whall, A. L. (1996) *Conceptual Models of Nursing Analysis and Application* (3rd Ed) Appleton and Lange, Stamford, Connecticut.

Fitzpatrick, J. J. Whall, A. L. (1983) *Conceptual Models of Nursing Analysis and Application.* Bowie MD, Roberts J Brady eds. Appleton and Lange, Stamford, Connecticut.

Flaskerud, H. R. Haolloran, E. J. (1980) Areas of agreement in nursing theory development. *Advances in Nursing Science*. 3(1), p. 1-7.

Fletcher, D. (1998) Public sector pay. The Daily Telegraph, Friday, January 30th, p. 11.

Forchuk, C. (1994) The orientation phase of the nurse-client relationship: testing Peplaus theory. *Journal of Advanced Nursing*, 20(3), p. 532-537.

Fowler, J. (1995) Taking theory into practice: Using Peplau's model in the care of the patient. *Professional Nurse*, January 10(4), p. 226-230.

Frager, R. Fadiman, J. McRenolds, C. Cox, R. (1987) Motivation and Personality by A H Maslow 3ed. Frager, R. Fadiman, J. McRenolds, C. Cox, R eds. Harper Collins Publishers.

Fraser, M. (1996) *Conceptual Nursing in Practice: A researched based approach* (2nd Ed) Chapman and Hall.

Fraser, M (1990) *Conceptual Nursing in Practice: A researched based approach* Chapman and Hall.

Frederickson, K. (1992) Research methodology and nursing research. *Nursing Science Quarterly*, 5(4), p. 150-151.

Freidson, E (1970) Professional Dominance. Aldine, Chicago.

Gadamer, H. G. (1994) Truth and method 2nd edn (J. Weinshemer & D. Marshall, trans.) Continuum, New York.

Garon, M. (1992) Contributions of Martha Rogers to the development of Nursing Knowledge, *Nursing Outlook*, March / April. 40(2), p. 67-72.

Girot ,E. (1990) Discussing Nursing Theory. *Senior Nurse*, 10(6), p. 16-19.

Glaser, B.G. Strauss, A.L. (1967) *Discovery of grounded theory-Stratigies for Qualitative research.* Aldine, Chicago.

Glaser, B. G (1963) Retreading research materials: the use of secondary analysis by the independent researcher. *American Behavioural scientist,* 6, p. 11-14.

Goorman, E. Berg, M. (2000) Modelling nursing activities: electronic patient records and their discontents. *Nursing Inquiry*, March. 7(1), p. 3-9.

Gordon, N. (1998) Critical reflection on the dynamics and processes of qualitative research interviews. *Nurse Researcher.* 5, p. 72-81.

Gortner, S. R. (1993) Nursings's syntax revisited: a critique of philosophies said to influence nursing theories', *International Journal of Nursing Studies*, 30 (6): 477-488.

Grahame (1987) 'Backchat', *Nursing Times*, 83 (16): p22.

Greenwood, J. (1988) More considerations concerning the application of nursing models to curricula reply to Lorrain Smith, *Nurse Education Today*, 8(4), p. 187-190.

Gruending, D. L. (1985) Nursing Theory A Vehicle For Professionalisation. *Journal Of Advanced nursing.* 10(6), p. 553-558.

Guba, E. G. Lincoln, Y. S. (1994) Competing paradigms in qualitative research; in Denzin, N. K. Lincoln, Y. S. eds (1994) *Handbook of qualitative research.* Thousand Oaks, CA: Sage

Guba, E. G. Lincoln, Y. S. (1989) *Fourth generation evaluation.* London. Sage Publications.

Haigh, A.O'Connell, A. Edwards, M. (1996) Clinical Protocols herald new era of nursing documentation. *Nursing Times.* Dec, 18th, 92(51), p. 32-35.

Hail, C. A. Thomas, L. H. Bond, S. Todd, C. (1997) The nursing record as a research tool to identify nursing interventions. *Journal of Clinical Nursing*, 6(3), p. 207-214.

Hall, S. (2000) Anger over treatment of old. Special report; the future of the NHS. *The Guardian.* Friday 22 September, p. 12.

Hallett, C. (1995) Understanding the Phenomenological approach to research. Nurse Researcher, 3(2), p. 55-65.

Hammersley, M. Atkinson, P. (1983) *Ethnography: Principles in Practice*, London: Tavistock. p.199.

Hardy, M. (1992) Theories: components developments, evaluation. In Nicoll, L. ed *Perspectives on Nursing Theory* 2, New York, Lippencott.

Hardy, L. K. (1988) Excellence in nursing through debate: the case of nursing theory. *Recent Advances In Nursing*, 21, p. 1-13.

Hardy, L. K. (1986) Janforum: Identifying The Place of Theoretical Frameworks in an Evolving Discipline, *Journal of Advanced Nursing.* 11(1), p. 103-107.

Hawkett, S. (1990) A gap that must be bridged: nurses attitudes to theory and practice, *Professional Nurse*, 6(3) Dec p. 166-170.

Hayne, Y. (1992) The current status and future significance of nursing as a discipline, *Journal Of Advanced Nursing*, 17(1), p. 104-107.

Hegyvary, S. T. Haussman, R. K. D. (1976) Monitoring nursing care quality *Journal of Administration,* 6(9), p22-7.

Heidegger, M. (1962) *Being and time* (trans. J. Macquarrie & E. Robinson). Basil Blackwell, Oxford.

Henderson, V. (1969) *The basic principles of nursing care.* International council of nurses, Geneva.

Henderson, V. (1966) The nature of nursing. A definition and its implications for practice, research and education. In Aggleton, P. Chalmers, H. (2000) *Nursing Models and Nursing Practice.*2nd ed. Macmillan Press LTD. London

Henderson, V. (1960) *The basic principles of nursing care.* International Council of nurses Geneva: International Council of Nurses. In Fitzpatrick, J. J. Whall, A. L. 3rd ed (1996) *Conceptual models of Nursing: analysis and application.* Appleton and Lange

Henderson, V. (1972) The Yale University School of Nursing Index Staff (1963, 1966,1970, 1972). *Nursing Studies Index* (4 volumes; I, 1900-29, II, 1930-49, III, 1950 –56, IV, 1957-59). Philadelphia: J. B. Lippincott.

Heritage, J. Sefi, S. (1992) Dilemmas of Advice: aspects of the delivery and reception of advice in interactions between health visitors and first time mothers'. In Drew, P. Heritage, J. C eds (1992) Talk at work, Cambridge: Cambridge University Press.

Hewison, A. (1995) Nurse's power in interaction with patients. *Journal of Advanced Nursing.* 21(1), p. 75-82.

Hinton-Walke,r P. Neuman, B. (1997) *Blueprint for use of nursing models.* NLN Press. New York.

Holden, R. J. (1991a) An analysis of caring: attributions, contributions and resolutions. *Journal of Advanced Nursing.* 16(8), p. 893-898.

Holden, R. J. (1991b) Responsibility and autonomous nursing practice. *Journal of Advanced Nursing.* 16(4), p. 398-403.

Holden, R. J. (1991c) In defence of Cartesian dualism and the hermeneutic horizon. *Journal of Advanced Nursing.* 16(11), p. 1375-1381.

Holden, R. J. (1990) Models, muddles and medicine. *International Journal of Nursing Studies,* 27(3), p. 223-234.

Hoon, E. (1986) Game Playing: A Way To Look At Nursing Models, *Journal of Advanced Nursing,* 11(4), p. 421-427.

Hopps, L. C. (1994) Review: The development of research in nursing in the United Kingdom. *Journal of Clinical Nursing,* 3(4), p. 199-204.

Hunink, G. (1995) A study guide to Nursing Theories. Edinburgh. Campion Press.

Husband, A. (1988) Application of King's Theory of the care of the adult with diabetes. *Journal of Advanced Nursing,* 13, p. 484-488.

Husserl, E. (1962) *Ideas: General introduction to Pure Phenomenology* (trans. R. B Goodman), New York: Collier.

Hutchinson, S. Skodol-Wilson, H. (1992) Validity threats in scheduled semi-structured research interviews. *Nursing Research,* 41(2), p. 117-119.

Ingram, R. (1991) Why does nursing need theory? *Journal of Advanced Nursing.* 16(3), p. 350-353.

Jaarsma, T. Dassen, T. (1993) The relationship of nursing theory and research: state of the art, *Journal of Advanced Nursing.* 18(5), p. 783-787.

Jacobs, J. (1990) Parkinson's disease Using the RLT Model. *Nursing Times.* May 86(21), p. 37-39.

Jacono, B. J. Jacono, J. J. (1994) A holistic exploration of barriers to theory utilisation. *Journal of Advanced Nursing,* 21(2), p. 515-519.

Jennings, B. M. (1995) Nursing research a time for redirection, J.O.N.A., 25(4) p. 9-11.

Jennings, B. M. (1987) Nursing Theory Development: successes and challenges. *Journal of Advanced Nursing*, 12 (1), p. 63-69.

Johnson, S. E. (1989) A picture is worth a thousand words: helping students visualise a conceptual model. *Nurse Educator,* 13(3), p. 21-24.

Johnson, M. (1983) Some Aspects Of The Relationship Between Theory and Research. *Journal of Advanced Nursing*. 8(1), p. 21-28.

Johnson, D. E. (1980) The behavioural systems model for nursing. In. Riehl, J. P. Roy, S. C eds. *Conceptual models for nursing practice* 2nd ed. New York: Appleton-Century-Crofts. p. 207-216.

Johnson, D. E (1974) Development of theory: A requisite for nursing as a primary health profession. Nursing Research. 23, p. 372-377.

Johnson, D. E (1959) 'The nature of a science of nursing', *Nursing Outlook*, 7:291-4.

Jones, A. (1995) Utilising Peplau's psychodynamic theory for stroke patients care. *Journal of Clinical Nursing*, 4(1), p. 49-54.

Jukes, M. (1988) Nursing model or psychological assessment? *Senior Nurse,* 8(11), p. 8-10.

Kalideen, D. (1993) Is there a place for Nursing models in theatre nursing? *British Journal of Theatre Nursing*. Aug. 3(5), p. 4-6.

Kendrich, J. (1990) Nursing Models: Enhancing or Inhibiting Practice. *Nursing Standard*, 5(11), p. 39-40.

Kenny, T. (1993) Nursing models fail in practice. *British Journal of Nursing*, 2(2), p. 133-136.

Kenny, T. (1990) Erosion of individuality in care of the elderly people in hospital-an alternative approach. *Journal of Advanced Nursing*, 15(5), p. 571-576.

Kershaw, B. (1990) Nursing models enhancing or inhibiting practice. *Nursing standard*, 5(5), p. 35-37.

Kershaw, B. Salvage, J. (1986) *Models for Nursing*. John Wiley, Chichester.

Kilgour, D. Y. Logan, W. W. (1985) A model for health: its use in an undergraduate nursing programme. *Nurse Education Today*. 5, p. 215-220.

Kim, H. S. (1989) Theoretical thinking in nursing: problems and prospects. *Recent Advances in Nursing*. 24, p. 106-122.

Kim, H. S. (1987) Structuring the nursing knowledge system: a typology of four domains. *Scholarly inquiry for nursing practice.* 1, p.99-110.

Kim, H. S. (1983) The Nature of theoretical thinking in nursing, Norwalk, Conn.: Appleton-Century-Crofts.

Kincheloe, J. L. Mclaren, P. L. (1994) Rethinking Critical Theory and Qualitative Research. In Denzin, N. K. Lincoln, Y. S. eds. (1994) *Handbook of qualitative research.* Thousand Oaks, CA: Sage. P. 138-157.

King, M. L. (1992) Case Management. *Canadian Nurse.* 88(4) April p. 15-17.

Kinghorn, S. Gamlin, R. (1996) *Cancer Care: conventional, complimentary or consensus.* In Cooper, N, Stevenson, C. Hale, G. eds. Integrating Perspectives on Health. p. 98-109. Open University Press.

Kirk, J. Miller, M. L. (1986) *Reliability and Validity in Qualitative Research Qualitative Research Methods Series vol 1.* Beverly Hills, CA: Sage.

Koch, T (1996) Implementation of the Hermeneutic inquiry in nursing: philosophy, rigour and representation. Journal of Advanced Nursing, 24(1), p. 174-184.

Koch, T. (1994) Establishing Rigour in qualitative research: the decision trail. *Journal of Advanced Nursing.* 19(5), p. 976-986.

Koziol-Mclain, J. Maeve, K. M. (1994) Letters to the editor, *Nursing Outlook,* 42(3) p. 141-142.

Kristjanson, L. J. Tamblyn, R. Kuypers, J. A. (1987) A model to guide development and application of multiple nursing theories. *Journal of Advanced Nursing.* 12(4), p. 523-529.

Kuhn, T. S. (1977) Second thoughts on paradigms. In F. Suppe, The structure of scientific theories (2nd ed., p. 459-517). Chicago: University of Illinois Press.

Kuhn, T. S. (1970) *The structure of scientific revolutions.* 2nd ed. University of Chicago Press, Chicago.

Kvale, S. (1996) *Interviews an Introduction to Qualitative Research Interviewing.* London, Sage.

Lacey, A. E. (1994) Research utilisation in nursing practice - a pilot study. *Journal of Advanced Nursing,* 19(5), p. 987-95.

Latimer, J. (1995) The nursing process re-examined: enrolment and translation, *Journal of Advanced Nursing.* 22(2), p. 213-220.

Lauri, S. Lepisto, M. Kappeli, S. (1997) Patients' needs in hospital nurses' and patients' views. *Journal of Advanced Nursing.* 25(2), p. 339-346.

Lecompte, M. D. Goetz, J. P. (1982) Problems of reliability and Validity in Ethnographic research. *Review of Educational Research,* 52(1), p. 31-60.

Leininger, M. M. (1994) Quality of life from a transcultural nursing perspective. Nursing Science Quarterly, Spring. 7(1), p. 22-8.

Leininger, M. M. (1990) Historical and epistemological dimensions of care and caring with future directions. In J.S. Stevenson & T, Tripp- Reimer (Eds), *Knowledge about caring: State of the art and future developments*. p19-31. Kansas City, MO: American Academy of Nursing. Levin, L. S. Katz, A. H. Holst, E. (1977) Self Care. Lay Initiatives. In Waterworth S. Luker, K. A. (1990) Reluctant collaborators: do patients want to be involved in decisions concerning care? *Journal of advanced Nursing*. 15(8), p. 971-976.

Lewis, T. (1988) Leaping the chasm between theory and practice, *Journal of Advanced Nursing*. 13(3), p. 345-351.

Lott, T. F. Blazey, M,.E. West, M.G.(1992) Patients participation in health care: an under used resource, *Nursing Clinics Of North America*, 27(1), p. 61-76.

Luker, K. (1988) Do models work? *Nursing Times*, 84(5), p. 27-29.

Magan, S. J. Gibbon, E. J. Mrozek, R.(1990) Nursing theory applications: A practice Model, *Issues in Mental Health Nursing*, 11(3), p. 297-312.

Manthey, M. (1980) *The practice of primary nursing*. Blackwell Scientific Publications Inc.

Marriner, A. (1986) *Nursing Theorists and Their work*. 2nd ed. CV. Mosby, St Louis

Marriner-Tomey, A. Alligood, M. R. (1998) Nurse theorists and their work 4th ed. Mosby, St Louis.

Marriner-Tomey, A. (1994) Nursing theorists and their work. 3rd ed. St Louis: Mosby-Year Book.

Martain, V. (1993) Growing Confidence. *Nursing Times,* Dec 1, 89(48), p. 44-46.

Mascord, P. (1989) Five days: five nursing theories, *The Australian Journal Of Advanced Nursing*, 6(2), p. 13-15.

Maslow, A. H. (1971) *Motivation and Personality*, 2nd edition, Harper and Row, London.

Mason, T. Chandley, M. (1992) Nursing models in a special hospital: cybernetics, hyperreality and beyond. *Journal of Advanced Nursing*. 17(11), p. 1350-1354.

Mason, T. Chandley, M. (1990) Nursing models in a special hospital: a critical analysis of efficaity. *Journal of Advanced Nursing*, 15(6), p. 667-673.

Mays, N, Pope, C. (1995) Qualitative Research: observational methods in health care settings. *British Medical Journal*, 15 July 311(6996), p. 182-184.

McClune, B. Franklin, K. (1987) The Mead model for nursing-adapted from the Roper / Logan / Tierney model for nursing. *Intensive Care Nursing*, 3, p. 97-105.

McFarlane, J. K (1986) 'Looking to the future', in Klershaw, B and Salvage, J. (eds), *Models For Nursing*, Chichester: John Wiley & Sons.

McFarlane, J. (1980) *Essays in Nursing*. Kings Fund. London.

McKenna, H. P. (1997a) Theory and research: a linkage to benefit practice. *International Journal of Nursing Studies,* 34 (6), p. 431-437.

McKenna, H. P. (1997) *Nursing Theories and Models*. Routledge.

McKenna, G. (1993) Unique theory - is it essential in the development of a science of nursing? *Nurse Education Today*, 13(2), p. 121-127.

McKenna, H. P. Parahoo, K. A. Boore, J. R. P. (1995a) The evaluation of a nursing model for long stay psychiatric patient care. Part 2- presentation and discussion of findings. *International Journal of Nurse Studies*, 32(1), p. 95-113.

McKenna, H. P. Parahoo, K. A. Boore, J. R. P. (1995b) The evaluation of a nursing model for long- stay psychiatric patient care. Part 1 – Literature review and methodology. *International Journal of Nurse Studies*, 32, 79-94)

McKenna, H. P. (1994) The attitudes of traditional and undergraduate nursing students towards nursing models: a comparative survey. *Journal of Advanced Nursing*, 19(3), p. 527-536.

McKenna, H. P. (1990) The perceptions of psychiatric hospital ward sister / charge nurses towards nursing models. *Journal of Advanced Nursing*. 15(11), p. 1319-1325.

McKeown, R. (1995) The health bus – a study of a developing project. In Reed, J. Proctor, S. (1995) *Practitioner research in health care: the inside story*. Chapman and Hall, p. 115-129.

McLeod, W. T. (1988) *The New Collins Thesaurus: In A-Z form*. Collins. London.

Melia, K. M. (1982) 'Tell it as it is' - qualitative methodology and nursing research: understanding the student nurse's world. *Journal of Advanced Nursing*, 7(4), p. 327-335.

Melia, K. Fawcett, T. N. (1986) Theories of the third kind. In Stinson, S. M. Kerr, J .C. Giovannetti, P. Field, P. A. Macphail, J. eds. Proceedings of the International Nursing Research Conference, New Frontiers in nursing Research. University of Alberta, Edmonton, AB, May: p. 253.

Meleis, A. I. (1995) Development of theory from practice, Workshop presentation in Kristianstad, Sweden, March. In McKenna, H. P. (1997) *Nursing Theories and Models*. Routledge.

Meleis, A. (1991) *Theoretical Nursing: Development and Progress*. J B Lippencott, Philadelphia. p. 9-23, p. 213-241.

Meleis, A. I. (1985) *Theoretical Nursing: Development and Progress.* J B Lipencott, Philadelphia.

Meleis, A. I. (1983) The Evolving Nurse Scholarliness. *Advances in Nursing Theory Development.* Chinn P. L. eds. Aspen, Rockville.

Menzies Lyth, I. E. P. (1988) *Containing Anxiety in an Institutions: Selected Essays*, Free Associations Books, London.

Meriney, D. K. (1990) Application of Orem's conceptual framework to patients with hypercalcemia related to breast cancer. *Cancer Nursing*, 13(5), p. 316-323.

Merleau-Ponty, M (1956) What is phenomenology? Cross Currents 6, 59-70.

Miles, M. B, Huberman, A. M. (1994) *Qualitative Data Analysis: An expanded source book.* 2nd ed. Sage Publications.

Miller, B. (1990) The benefits of nursing models. *Surgical Nurse*, 3(1), p. 5-8.

Miller, A. (1985) The relationship between nursing theory and nursing practice, *Journal of Advanced Nursing*. 10(5), p. 417-424.

Mills, A. (1994) A case study in Rogerian nursing. *Nursing Standard*, 9(7), p. 31-34.

Minshull, J. Ross, K. Turner, J. (1986) The human needs model of nursing. *Journal of Advanced Nursing*. 11(6), p. 643–649.

Mishler, E.G. (1986) *Research interviewing: context and narrative*. Massachusetts, Harvard University Press.

Mitchell, J. C. (1983) 'Case and situational analysis', *Sociological Review*, 31(2), p.187-211.

Moody, L. E. Wilson, M Smyth, K, Schwartz, R, Tittle, M. VanCott, M. (1988) 'Analysis of a decade of nursing practice research'. Nursing Research, 37: 374-9.

Morse, J. M. (1994) Qualitative research: Fact or Fantasy? In Morse, J. M. ed. *Critical Issues In Qualitative research methods*. Sage, Thousand Oaks. p. 1-7.

Morse, J. (1991) Qualitative Research: a contemporary dialogue. Sage. Newtony Park Calafornia.

Morse, J. M. (1992) If you believe in Theories..., Editorial. *Qualitative Health Research*, August, 2(3), p. 259-261.

Moule, P. (1999) Contracting for nurse education: nurse leader experiences and future visions. *Nurse Education Today*, Feb, 19(2), p. 164-71.

Munhall, P. A (1994) *Revisioning Phenomenology: Nursing and health Science Research.* New York NY, National League for Nursing Press.

Murphy Black, T. (1992) Research in Brief: Using the nursing process and models in midwifery, *Journal of Clinical Nursing*. 1, p. 167-168.

Murphy, K. Conney, A. Casey, D. Connor, M. O' Connor, J. Dineen, B. (2000) The Roper, Logan and Tierney (1996) Model: perceptions and operationalization of the model in psychiatric nursing within a Health Board in Ireland. *Journal of Advanced Nursing*, 31(6), p. 1333-1341.

Nelson, J. W. (2000) Models of nursing care: A century of Vacillation. *Journal of Nursing Administration*, April 30(4). p. 156-184.

Neuman, B. (1972) The Betty Neuman Model: a total approach to viewing patient problems. *Nursing Research*, 21(3), p. 264-9.

Newman, M. A. Sime, A. M. Corcoran-Perry, S. A. (1991) The focus of the discipline of nursing. *Advances in Nursing Science*, 14(1), p. 1-6.

Newman, M. A. (1983) The continuing revolution: A history of nursing science. In N.L. Chaska (Ed.), *The nursing profession: A Time to speak.* p385-393. New york: McGraw- Hill.

Newton C (1991) *The Roper - Logan - Tierney Model in action.* The Macmillan Press LTD, Hampshire.

Nicoll, L. H. Meyer, P.A. Abraham, I. L. (1985) Critique: external comparison of conceptual nursing models, *Advances In Nursing Science*. 7(4), p. 1-9.

Nicoll, L. H. Beyea, S. C. (1999) Using secondary data analysis for nursing research. *AORN Journal*, 69(2), p. 428,430,433.

Nieswiadomy, R. M. (1987) *Foundations of Nursing Research.* Norwalk, Conn: Appleton and Lange.

Nisbett, R. E. Ross, L. (1980) *Human Inference: strategies and short comings of social judgment.* Englewood cliffs, N J: Prentice hall.

Nolan, M. Behi, R. (1995a) The nature of scientific knowledge: fact or theory? *British Journal of Nursing*, 4(4), p. 221-224

Nolan, M. Behi, R. (1995b) What is research? Some definitions and dilemmas. *British Journal of Nursing*, 4(2), p. 111-115.

Nolan, M. Behi, R. (1995c) Induction moving from the specific to the general. *British Journal of Nursing,* 4(5), p. 279-282.

Nolan, M. Behi, R. (1995) Research in nursing: developing a conceptual approach, *British Journal of Nursing*, 4(1) p. 47-50.

N.U.D.S.T. Q. S. R. Qualitative Data Analysis Software for Research Professionals.(Microsoft Windows version 3.0), [Computer Program]. Available Distributor: Qualitative Solutions and Research Pty Ltd., 2 Research Avenue, La Trobe University, Bundoora Campus, Victoria Australia 3083 CAN 006 357 213.

Nyatanga, L. (1991) Nursing and the philosophy of science. *Nurse Education Today*, 11, p. 13-18.

Nyqvist, K. H. Sjoden, P. (1993) Advice concerning breastfeeding from mothers of infants admitted to a neonatal intensive care unit: the Roy adaptation model as a conceptual structure. *Journal of Advanced Nursing*. 18(1), p. 54-63.

Oijen, E .V. (1995) What is sexuality? *Nursing Times*, April 26, 91(17), p. 26-27.

Oldnall, A. S. (1995) Guest Editorial: On the absence of spirituality in nursing theories and models. *Journal of Advanced Nursing*. 21(3), p. 417-418.

Oleson, M. Shadick, K. M. (1993) Application of Moos and Schaefer's (1986) model to nursing care of elderly persons relocating to a nursing home. *Journal of Advanced Nursing*, 18(3),p. 479-485.

Omery, A. (1983) Phenomenology: a method for nursing research. Advances in Nursing Science, 5(2), p. 49-63.

Openshaw, S. (1984) Literature review: measurement of adequate care. International Journal of Nursing Studies. 21(4), p. 295-304.

Orem, D. (1991) *Nursing: Concepts of practice*. 4th ed. St. Louis: Mosby, Inc.

Orem, D. (1980) *Nursing: Concepts of practice*. 2nd ed. New York McGraw-Hill

Owen, M. J. Holmes, C (1993) 'Holism' in the discourse of nursing, *Journal of Advanced Nursing*, 18(11), p. 1688-1695.

Page, M. (1995) Tailoring nursing models to clients needs: Using the Roper, Logan and Tierney model after discharge. *Professional Nurse*, 10(5), p. 284-288.

Parr, M. S. (1993a) Nursing Models - The Arguments. *British Journal of Theatre Nursing*, Aug, 3(5), p. 11-12.

Parr, M. S. (1993b) The Neuman Health care systems Model: An evaluation. *British Journal of Theatre Nursing*, 3(8), p. 20-7.

Parse, R. R. (1999) Nursing Science the Transformation of Practice. *Journal of Advanced Nursing*. Dec, 30(6) p. 1383-1387.

Parse, R. R. (1998) The Human Becoming School of Thought. Sage. Thousand Oaks.

Parse, R. R. (1992) Human Becoming: Parse's theory of nursing. *Nursing Science Quarterly*, 5, p35-42.

Parse, R. Coyne, A. Smith, M. (1985) Nursing Research. Qualitative Methods. Brady Communications, Bowie Maryland.

Patton, M. Q. (1990) *Qualitative Evaluation and Research Methods*. 2nd ed. Sage, Newbury Park, California.

Pearson, A. Vaughan, B. (1986) The Activities of Living Model for Nursing. In *Models for Nursing Practice*. Pearson, A. Vaughan, B. eds, Heinemann, London. p53-68.

Peplau, H. E. (1992) Interpersonal relations: A theoretical framework for application in nursing practice. *Nursing Science Quarterly*. 5(1), p. 13-18.

Peplau, H, E. (1952) *Interpersonal Relations in Nursing*. New York: Putman.

Perlich, L, J. (1986) Consider This..., J. O. N. A. Feb. 16(2) p. 4,16,32.

Pirie V (1995) Researching into communicating with children–problems and issues of using a randomized controlled trial. In Reed, J. Proctor, S. (1995) *Practitioner Research in Health Care: the inside story*. Chapman and Hall. p. 85-98.

Polit, D, F, Hungler, B, P. (1991) *Nursing Research Principles and Methods*. 4th Ed Philadelphia, J. B. Lippincott Company.

Polit, D. F. Hungler B. P. (1987) *Nursing Research. Principles and Methods*, Philadelphia, Pa: Lippincott.

Pope, C. Mays, N, (1995) Qualitative Research: observational methods in health care settings. *British Medical Journal*, 15 July 311, p. 182-184.

Popper, K. R. (1972) Conjecture and refutations: The growth of scientific Knowledge. (4th ed) Routledge and Kegan, London.

Powe, A. (1993) Nursing Theory Vs Nursing Practice. *Senior Nurse*, Sept / October, 13(5) p. 32-34.

Powers B, A. Knapp T, R. (1995) *A dictionary of nursing theory and research.* 2nd Edition. Sage. London

Procter, S. (1995) The contribution of inductive and deductive theory to the development of practitioner research. In Reed, J. Procter, S. (1995) *Practitioner research in health care: the inside story.* Chapman and Hall. P. 62-80.

Raymond, K. Greengrass, S (1999) The Saturday debate: Should age play a part in access to health care? *The Guardian.* 13 November, p. 2.

Reed, J. (1992) Secondary Data in nursing research. *Journal of Advanced Nursing.* 17(7), 877-883

Reed, J. (1992b) Individualised nursing care: some implications. *Journal of Clinical Nursing.* 1(7), 7-12

Reed, J. Biott, C. (1995) Evaluating and developing practitioner research. In Reed, J. Procter, S. eds. (1995) *Practitioner Research in Health Care; the inside story.* Chapman and Hall p.181-204.

Reed, J. Procter, S. (1995) *Practitioner research in health care: the inside story.* Chapman and Hall.

Reed, J. Proctor, S. (1993) Nursing Knowledge: a critical examination. In Reed, J. Proctor, S. eds. *Nurse Education: a Reflective approach*, Edward Arnold, Sevenoaks, Kent p.14-29.

Reed, J. Robbins, S. J. (1991) Models of Nursing: Their Relevance To the Care Of Elderly People. *Journal Of Advanced Nursing.* 16(11), p. 1350-1357.

Reed, P, G. Zurakowski, T. L. (1996) Nightingale: foundations of nursing practice. In: Fitzpatrick, J, J. Whall A, L. (1996) *Conceptual Models of Nursing Analysis and Application.* 3rd ed. Appleton and Lange. p. 24-54.

Reynolds, B. (1993) Criteria to evaluate Nursing theories and models. *Journal of Psychosocial Nursing,* 31(12), p. 5-6.

Richardson, S. A. Dohrenwend, B. S. Klein, D. (1965) Interviewing. Basic Books, New York

Robinson, D. (1990) Two decades of the process. *Senior Nurse*, 10(2) p. 4-6.

Roberts, C. (1982) Identifying the real patient problems. *Nursing Clinics of North America.* 17(3), p. 311-316.

Roberts, K. L. (1985) Conceptual Frameworks and the nursing curriculum, *Journal Of Advanced Nursing.* 10(5), p. 483-489.

Rodgers, S. (1994) An exploratory study of research utilisation by nurses in general medical and surgical wards. *Journal of Advanced Nursing*, 20(5), p. 904-11.

Rogers, M. E. (1980) 'Nursing: A science of unitary man'. In Riehl, J. P. and Roy, L. C. eds., *Conceptual Models of Nursing Practice*, Norwark: Appleton-Century - Crofts. p. 207-216.

Roper, N. (1976) A model for nursing and nurseology. *Journal of Advanced Nursing.* 1(3), p. 219-227.

Roper, N. Logan, W. (1985b) The Roper, Logan and Tierney model. *Senior Nurse*, July 3(2) p. 20-26.

Roper, N. Logan, W. Tierney, A. (1996) *The Elements of Nursing: A model for nursing based on a model of living.* (4th ed) Churchill Livingston. Edinburgh.

Roper, N. Logan, W. Tierney, A. (1990) *The Elements of Nursing.* 3rd ed. Churchill Livingston Edinburgh.

Roper, N. Logan, W. Tierney, A. (1985a) *The Elements of Nursing.* 2nd ed. Churchill Livingston. Edinburgh.

Roper, N. Logan, W. Tierney, A. (1982) Learning to Use the Process of Nursing, Churchill Livingston, Edinburgh.

Roper, N. Logan, W. Tierney, A. (1980) *The Elements of Nursing*, Churchill Livingston, Edinburgh.

Roper, N. Logan, W. Tierney, A. (1983a) A nursing model. *Nursing Mirror*, 156(21) May 25, p. 17-19

Roper, N. Logan, W. Tierney, A. (1983b) Is there a danger of processing patients? *Nursing Mirror*, 156(22), p. 32-33.

Roper, N. Logan, W. Tierney, A. (1983c) Problems or needs? *Nursing Mirror*, 156(23), p. 43-44.

Roper, N. Logan, W. Tierney, A. (1983d) Identifying the goals. *Nursing mirror*, 156 (24), p. 22-23.

Roper, N. Logan, W. Tierney, A. (1983e) Endless paperwork? *Nursing Mirror*, 156(25), p. 34-35.

Roper, N. Logan, W. Tierney, A. (1983f) Unity with diversity, *Nursing Mirror*, 156(26), p.35.

Roper, N. Logan, W. Tierney, A. (1983g) A model for nursing. *Nursing Times*, March 2. 79(9), p. 24-27.

Roper, N. Logan, W. Tierney A. (1983h) *Using a model for nursing.* Churchill Livingston, Edinburgh.

Rose, P. Parker, D. (1994) Nursing: an integration of art and science within the experience of the practitioner. *Journal of Advanced Nursing.* 20(6), 1004-1010

Ross, M. M. Bourbonnais, F. F. Carroll, G. (1987) Curricular design and the Betty Neuman Systems Model a new approach to learning. *International. Nursing. Review.* 34(3), p. 75-79.

Rourke, A. (1990) Professional labelling. *Nursing Standard*, 4(42), p. 36-39.

Roy, C. Andrews, H. A. (1991) *The Roy adaptation model: the definitive statement.* Norwalk, CT, Appleton and Lange.

Roy, C (1980) The Roy Adaptation model. In Riehl, J. P. and Roy, C Eds., *Conceptual Models for nursing practice*, Norwalk: Appleton-Century-Crofts.

Roy, C. (1970) Adaptation: A conceptual framework for nursing. *Nursing Outlook.* 18(3), p. 42-45.

Rowe K (1995) Nursing a person who had suffered a myocardial infarction. *British Journal of Nursing*, 4(3), p. 148-155.

Ruane-Morris, M. Thompson, G. Lawton, S. (1995) Designing a nursing model for dermatology, *Professional Nurse,* 10(9), p. 565-566.

Salvage, J. (1990) The theory and practice of the 'new nursing' an occasional paper. *Nursing Times.* January 24, 86(4),p. 42-45.

Sandelowski, M. (1995) On the aesthetics of qualitative research. IMAGE: Journal of Nursing Scholarship, 27(3), p. 205-209.

Seidman, I. E. (1991) *Interviewing as qualitative research.* Teacher College Press. New York

Serlin, R. C. (1987) Hypothesis Testing: Theory Building and the Philosophy of Science. *Journal of Counselling Psychology* 34(4), p. 365-371.

Sedlak, C. Ross, D. Arslanian, C. Taggart, H. (1998) Orthopaedic nursing research priorities: a replication and extension. *Orthopaedic Nurse*, Mar-April, 7(2), p. 51-8.

Scott, J. (1990) *A Matter of Record.* Polity Press, Cambridge.

Schoenhofer, S. O. (1993) What constitutes nursing research? *Nursing Science Quarterly,* 6(2), p. 59-60.

Schrock, R. A. (1981) Philosophical issues. In L. Hockey ed. In *Current Issues in Nursing.* Churchill Livingston, Edinburgh.

Sheiham, A. Maizels, J. E. Cushing, A. M. (1982) The concept of need in dental care, 32(3), p. 265-70.

Silva M. (1987) Conceptual models of nursing. *Annual Review of Nursing Research.* 5, p. 229-246.

Silva, M. C. (1986) Research testing nursing theory: State of the art. *Advances in Nursing Science,* 9(1), p. 1-11.

Silva, M. C. Sorrell, M. J. (1992) Testing of Nursing Theory: critique and philosophical expansion. *Advanced Nursing Science*, 14(4), p. 12-23.

Silverman. D. (2000) *Doing Qualitative Research: a practical handbook.* Sage publications. London.

Silverman, D. (1993) *Interpreting Qualitative Data: Methods for analysing talk, text and interaction.* Sage Publications.

Silverman, D. (1985) *Qualitative Methodology and sociology: describing the social world.* Aldershot: Gower.

Sim, J. Wright, C. (2000) *Research in health care; concepts, designs and methods.* Stanley Thornes (publishers) Ltd

Smith, H. W. (1975) *Strategies of Social Research: Methodological Imagination.* Prentice Hall International London.

Snell, J. (1997) They're banking on you. *Nursing Times*, Feb 12, 93(3), p. 24-26.

Spearman, S. A. Duldt, B. W. Brown, S. (1993) Research Testing Theory: A selective review of Orem's self-care theory, 1986-1991. *Journal of Advanced Nursing*, 18(10), p. 1626-1631.

Stevens-Barnum, B. J. (1998) Nursing theory: analysis, application, evaluation. 5th ed. Lippencott. Philidelphia.

Stevens-Barnum, B. J. (1994) *Nursing Theory: analysis, application, evaluation.* (4th ed), Philadelphia: Lippencott.

Stevens, B. J. (1984) *Nursing Theory: analysis application and evaluation.* 2nd ed. Boston Little Brown.

Stevens, B. J. (1979) Nursing Theory: Analysis Application And Evaluation, Boston Little Brown.

Stevenson C (1995) Reflections on evaluating a course of family therapy. In Reed, J. Proctor, S. (1996) *Practitioner research in health care: the inside story..* Chapman and Hall. p. 99-111.

Stevenson, C. Cooper, N. (1996) A reconciling framework. In *Integrating Perspectives on Health.* Edited by Cooper, N. Stevenson, C. and Hale, G. Open University Press. p. 146-159.

Strauss, A. L. (1987) *Qualitative analysis for social scientists.* Cambridge University Press, New York

Strauss, A. L. Corbin, J. (1998) Basics of Qualitative Research: techniques and procedures for developing grounded theory. Sage Publications. London.

Sullivan, G. C. (1989) Evaluating Antonovsky's Salutogenic model for its adaptability to nursing, *Journal of Advanced Nursing*. 14(4), p. 336-342.

Sutherland, L. (1991) The Burford Model, *Nursing*, 4(25) p. 19-21.

Tesch, R. (1991) *Qualitative Research: analysis types and software tools*. Basingstoke: Falmer Press.

Tesch, R. (1989) Computer software and qualitative analysis: A reassessment. In Blank, G. ed, *New technology in sociology: practical applications in research and work*. New Brunswick, N. J: Transaction books. p. 141-154.

Thorne, S. Canam, C. Dahinten, S. Hall, W. Henderson, A. Kirkham, S. R. (1998) Nursing's metaparadigm concepts: disimpacting the debates. *Journal of Advanced Nursing*. 27(6), p. 1257-1268.

Thorne, S. Jillings, C. Ellis, D. Perry, J. (1993) A nursing model in action: the university of British Columbia experience, *Journal of Advanced Nursing*. 18(8), p. 1259-1266.

Tierney, A. J. (1998) Nursing models extant or extinct? *Journal of Advanced Nursing*, 28(1), p. 77-85.

Tmobranski, P. H. (1994) Nurse patient negotiation: assumption or reality? *Journal of Advanced Nursing*. 19(4), p. 733-737

Tolley, K. A. (1995) Theory from practice for practice: is this a reality. *Journal of Advanced Nursing*, 21(1), p. 184-190.

Torres, G. Yura, N. (1974) *Today's conceptual framework: Its relationship to the curriculum development process*. National league for nursing, New York Pub. No 15-1529.

Torres, G. Yura, N. (1975) Today's conceptual framework with in baccalaureate nursing programs. In Faculty-curriculum developments, part III: Conceptual framework – its meaning and function (p. 17-25) New York: National League for Nursing.

Treece, E. W. Treece, J. W. (1986) *Elements of Research in Nursing*. 4th ed. CV Mosby, ST Louis.

U. K. C.C. (1998) *Guidelines for Records and Record Keeping*. London, UKCC.

U. K. C.C. (1993) *Standards for Records and Record Keeping*. London, UKCC.

Utz, S. W. Ramos, M. C. (1993) Mitral valve prolapse and its effects: a programme of inquiry within Orem's self-care deficit theory of nursing. *Journal of Advanced Nursing*, 18(5), p. 742-751.

Van der Merwe, Muller M. (1997) Operationalisation of a model for the development of clinical nursing standards. *Curations: South African Journal of Nursing* 20, p. 57-62.

Van Maanen, H. M. (1990) Nursing in transition: an analysis of the state of the art in relation to the conditions of practice and society's expectations. *Journal of Advanced Nursing*, 15(8), p. 914-24.

Valdez, A. M. Lund, C. A. (1993) Mentorship: Maslow and me. *The Journal of Continuing Education in Nursing*, November / December, 24(6), p. 259 – 263.

Vitale, B. Lattener, N. Nugent, P. (1978) *A Problem Solving Approach to Nursing Care plans.* C.V. Mosby, St Louis.

Walker, L. Avant, K. C. (1988) *Strategies for Theory Construction in Nursing.* 2nd ed., Norwalk, Conn: Appleton and Lange.

Walker, L. Avant, K. C. (1995) *Strategies for Theory Construction in Nursing.* 3rd ed., Norwalk, Conn: Appleton and Lange.

Walsh, M. (1998) Models and Critical Pathways in Clinical Nursing. 2nd ed. London. Ballier Tindall.

Walsh, M. (1991) *Models in Clinical Nursing: the way forward.* Balliere Tindall, London.

Walsh, M. (1990) From model to care plan. In *Models for nursing 2.* Salvage J and Kershaw, B. eds. Scutari Press, London.

Waterworth, S. Luker, K. A. (1990) Reluctant collaborators: do patients want to be involved in decisions concerning care? *Journal of Advanced Nursing*, 15(8), p. 971-976.

Webb, C. (1990) Partners in research. *Nursing Times*, 86(32), p. 40-44.

Webb, C. (1984) On the eighth day God created the nursing process and nobody rested. *Senior Nurse*, 1(33), p. 22-25.

Webb, C. (1986) Organising care, nursing models: a personal view'. *Nursing Practice*, 1(4), p. 208-12.

Webb, C. Pontin, D. (1997) Evaluating the introduction of primary nursing: the use of care plan audit. *Journal of Clinical Nursing*, 6(5), p. 395-401.

Wilson, C. (1972) In Frager, R. Fadiman, J. McRenolds, C. Cox, R. (1987) *Motivation and personality.* Maslow, A. H. 3rd ed. Harper Collins publishers p xxxvi.

Wilson-Barnett, J. (1988) Nursing values: exploring the clichés. *Journal of Advanced Nursing.* 13(6), p. 799-796.

Wimpenny, P. (1999) *An examination of nursing models from the practitioner perspective.* PhD Thesis. University of Aberdeen.

Whelan, E. G. (1984) Analysis and Application of Dorothea Orem's self-care practice model, *Journal of Nurse Education*, 23(8), October p. 342-345.

White, M. (1972) The importance of selecting nursing activities. *Nursing Research.* 21(1), p. 4-14.

Wright, S. (1991) Of primary importance. Primary nursing. *Nursing Times.* 87, p. 38-41.

Yura, H., & Torres, G (1975) Today's conceptual framework within baccalaureate nursing programs. In Faculty-curriculum development, Part III: Conceptual framework-its meaning and function (17-25). New York: National league for Nursing.

Yura, H. Walsh, M. (1978) *The Nursing Process.* Appleton-Century- Crofts, New York.

Yura, H. Walsh, M. B. (1967) *The Nursing Process*, Norwalk: Applton-Century –Crofts.

Zander, K. (1990) Managed care and nursing care management, in G. G. Mayer, M. J. Madden, E Lawrenz, eds. *Patient care delivery models.* Rockville, Aspen Publishing, p36-61.

Zander, K. (1987) Nursing case management: A classic definition, The centre for nursing case Management, 2(2), South Natick, MA.

Zauszniewski, J. A. (1995) Operationalization of a nursing model for psychiatric nursing research. *Western Journal of Nursing Research*, 17(4), p. 435-447.

APPENDIX 1

Research Committee Permissions

THE ROYAL VICTORIA INFIRMARY
Queen Victoria Road, Newcastle upon Tyne NE1 4LP Tel: 0191 232 5131. Fax: 0191 201 0155.

Mrs ANNE GALBRAITH
Chairman
Ext.: 21952

DEPARTMENT OF NURSING

Mr BARRIE DOWDESWELL
Chief Executive
Ext.: 24580

JA/MN/L3.7

4th July 1995

Rohan J Cross
c/o Dr Ruth Siddells
Research Section
Northumbria University
Ellison Place
Newcastle upon Tyne

Dear Rohan,

Re: Access to RVI for Research Study Entitled: Models of Care how they are perceived, and used by patient, and Health Care Professionals within an Orthopaedic Setting.

I am writing to confirm, that following successful approval for your research study from the Newcastle Research Committee, you may have access to the RVI to enable you to progress your study. May I wish you every success, and if we can be of any further assistance please do not hesitate to contact me.

Yours sincerely,

Jean Applegarth.

J Applegarth (Miss)
SENIOR NURSE CLINICAL PRACTICE

NEWCASTLE HEALTH AUTHORITY

AGENDA ITEM

UNIVERSITY OF NEWCASTLE UPON TYNE

JOINT ETHICS COMMITTEE

Form of Application for Ethical Approval for Research Project

Notes

(i) This form must be typed or printed in block capitals in black ink and, complete with associated paperwork, must be received by the Secretary to the Ethical Committee at Newcastle Health Authority, 2-10 Archbold Terrace, Newcastle upon Tyne, NE2 1EF, at least 17 days before the meeting held on the second Tuesday of the month.

(ii) A 150 word summary of the research protocol must be included on page 4 of this form.

(iii) Please answer all questions and ensure that the form is signed by the Project Supervisor and normally also by the responsible Clinician on page 4, otherwise consideration of the application by the Ethics Committee will be delayed.

1. Title of Project : **Models of care how they are perceived and used by patients and health care professionals within an orthopaedic setting.**

2. (a) Project Supervisor: **Dr J Reed, BA (Nursing), RGN, Dip Soc. Res., PhD, Appointment held: Department of Health Post-Doctoral Nursing Research Fellow, Centre For Health Service Research at Newcastle University.**

Senior Lecturer (Nursing Research) at the University of Northumbria at Newcastle.

(b) Consultant/General Practitioner **Mr Hornby Consultant Orthopaedic Surgeon.**
(normally required where patients are involved)

(c) Place where work will be carried out: **Ward 17 at RVI**

(d) Names and appointments of Associated Research Workers: **R Cross BA, RGN Staff Nurse Ward 17 RVI Registered for the degree of PhD via the MPhil transfer route with University of Northumbria at Newcastle.**

3. A full commercial protocol or a full protocol for research submitted for financial support (e.g. MRC) is required as appropriate. N/A.

4. Please indicate the categories of subjects to be studied i.e. number, age, sex and whether in-patient or out-patient

(a) Patients: **12 in-patients both male and female . Age range 18 and above for the observation phase and 12 in-patients both male and female above age 18 for the interview phase.**

(b) Patient controls: N/A.

(c) Healthy volunteers: N/A.

5. In the case of healthy volunteers:

(a) How and from where will they be sought? N/A.

(b) Will the GP be informed and if so how?
No. In patients only will be involved no extension into the community anticipated.

6. What significant discomfort (including psychological), inconvenience or danger will be caused.
It is not intended to cause psychological or physical discomfort in any way.

7. For commercially sponsored trials:-

(a) Has the appropriate clinical trial certificate or exemption been obtained? (copy must be enclosed) N/A.

(b) Has the company given, in writing, its acceptance of the ABPI guidelines "Clinical Trial Compensation Guidelines"? (copy must be enclosed) **N/A.**

8. Who will be responsible for the storage and dispensing of the Trial Drugs? **N/A.**

9. Financial implications:-

(a) Payment to volunteers: N/A.

(b) Will volunteers out of pocket expenses be met? N/A.

(c) Cost falling on the hospital or university:

(i) Have the financial consequences been agreed by the Unit General Manager? YES/NO

(ii) In the case of funding via the University has the project bid received approval N/A. through the University Blue Form mechanism? YES/NO

(iii) If not, do you intend to gain approval? N/A. YES/NO

(d) Details of payment from commercial sponsor to individual, department, hospital and/or University: N/A.

10. Give anticipated dates of starting and finishing study :
December 94 completed by June 99

11. Will the design of the study ensure scientific validity: (a) define the qualitative methodology and/or (b) define the statistical power e.g. 50% chance of detecting 10% variation :
I intend to use a qualitative approach to the study (Triangulation) using non participant observation, semi structured interviews and detailed examination of team records.

12. Will the results be of benefit to the patients involved in the study?
The benefits to current patients are limited, however it is hoped to improve the focus of patient care for future patients .

13. How will a suitable indication be made in the patients/subjects records to safeguard against repetitive research?
A card will be inserted into patients records which will indicate that they are participants in this study.

14. Are there any nursing implications - including occupancy of hospital beds? **No**

15. Communication with GP:-

(a) How will GP be informed of participation in study? **N/A.**

(b) If not before, what is the reason for this?:
All patients involved will be in-patients and their participation in the study will end before discharge

16. Does the research involve patients not the responsibility of clinicians in Newcastle? **No**
17. What procedure is proposed for obtaining consent? (Copy of information and consent forms must be enclosed. A routine hospital consent form is not normally appropriate for research projects).
It is intended to approach all proposed participants in person giving them the opportunity to consider their agreement before signing the consent form.

18. What particular ethical problems do you think there are in the proposed study? **None anticipated.**

+

ALL APPLICATIONS

Summary of research protocols, including details of drugs/treatment intended (maximum length 150 words) On the orthopaedic unit the nursing staff claim to use a particular model of nursing (Roper Logan Tierney ,Activities of Daily Living) to structure the care that they give to patients. In this study I wish to investigate how in practice the staff identify their patients needs and how far this is consistent with the purported model of care. The study will be carried out in 2 phases the development phase and the main study phase. The first stage will involve a period of non-participant observation of 12 patients spending the equivalent of one working day (8 hours) with each patient which be carried out in 2 hour blocks. Using this information together with the literature already written in this area, I will devise an interview schedule to be used in the main study phase. In the second stage 12 patients will be interviewed at the beginning and end of their stay in hospital. A detailed examination of the case notes will also take place as these will provide insight into underlying values and philosophies of care and also indicate which staff are involved in the care of each patient. The next stage involves using semi-structured interviews with the staff involved in each patients care evolved from information gathered in interviews with patients and from case note analysis.

The interviews with 12 patients and staff will identify the needs of the patient and how the staff give care. This information when compared with the theoretical needs of the patient as determined by the model being used will highlight how care is actually being given and will help to develop a more focused system of care based on patients needs.

Signatures: Project Supervisor: Reed date: 21/12/94

Address for communications: Centre for Health Services Research
University of Newcastle

Responsible Consultant/GP: date:

UNIVERSITY PROJECTS ONLY

UNIVERSITY OF NEWCASTLE UPON TYNE

NB: If this research incorporates invasive studies in volunteers including administration of drugs and it is not sponsored by a commercial organisation it is a prerequisite to approval that all information on this page is supplied, in a legible and concise form, so that the page may be copied for the purpose of insurance cover (see information/guidance note 6).

JOINT ETHICS COMMITTEE INSURANCE REGISTRATION SHEET

Number of volunteers involved:
Age range of volunteers: 10
Medical state of volunteers
September 1992/COM/24.1

BEDE, NEWCASTLE & NORTHUMBRIA COLLEGE OF HEALTH STUDIES

NURSING RESEARCH COMMITTEE

PROPOSAL FEEDBACK FORM

NAME: Rohan J Cross

UNIT: Ward 17, RVI

COURSE SUPERVISOR: Dr J Reed

MANAGER: Mr S Laxade, RVI

.....

TITLE OF PROJECT/ RESEARCH: **Models of care, how they are perceived and used by patient and health care professional within an orthopaedic setting**

TIMESCALE: Commence: Dec 1994 Finish: June 1999

COMMENTS/SUGGESTIONS:

MPhil/Phd

1. BACKGROUND AND AIMS

NRC wish to raise awareness that 'pathways of care' may impinge on nursing models and thus influence your work.

2. LITERATURE

3. METHODOLOGY

Whilst NRC recognise that there may be no alternative the difficulty of collecting data/undertaking observation in your own working area may raise some professional/personal dilemmas

5. RESOURCE IMPLICATIONS

.....

DISCUSSED AT NURSING RESEARCH COMMITTEE: DATE: 7/11/94

SUPPORTED / ~~REFERRED~~

SUPPORTED: ☑

REFERRED FOR FURTHER ACTION: ☐ Requires resubmission

currently being considered

☐ Requires approval from relevant Ethical Committee

☐ Supported subject to revision as identified in previous sections

NRC would welcome some feedback of your progress in November 1995

PROPOSAL.FDB

Information sheet

I am a staff nurse on the ward and I am doing a research project for my MPhil / PhD. I shall be working with Dr J Reed and Dr J Potts at the University of Northumbria at Newcastle. The working title of the study is 'Models of care how they are perceived and used by patients and health care professionals within an orthopaedic setting'. The central aim of the study is to discover the belief, values and perceptions of patients' needs from staff and patients, to help to improve care.

It involves observing twelve people admitted to the ward. The equivalent of one working day (eight hours) shall be spent with each person in blocks of two-hours. The information gathered will be used to formulate interviews to be used with another twelve patients. The observation will in no way affect the care given to patients taking part in this study. It is intended to tape record interviews with patients to help me to recall what is said. When the study is completed these tapes will be wiped clean.

I shall also examine the notes of twelve patients to see which professionals are involved in care, and when. The final stage of the study will involve interviews with patients to gain their ideas and perspectives. Once all the information has been collected it will be used to compile the final report. Please feel free to ask any question you want about the study and remember that you can change your mind or withdraw at any time.

Thank you for your help.

Rohan Cross.

APPENDIX 2

Consent form (Patient observations)

I am conducting a research study into the needs of patients and how staff on the ward meets these needs so that I can find ways of improving the service of care that is provided. I would like to observe people on the ward for the maximum of one working day (eight hours) divided up into short blocks of observation. I shall be recording the environment around you and the people that approach and speak to you. I am going to use this information to help me design interviews for staff and patients later on in the study.

All information will be completely confidential; it will not be passed to anyone else during the study. When I write the final report all personal details about persons involved will be removed, so that everyone will be anonymous.

If you are interested in taking part, I will leave an information sheet about the study for you to consider and I will return later to answer any questions. If you would like to take part could you sign in the space below. Please feel free to ask any questions you want about the study and remember that you can change your mind at any time and withdraw from the study if you want to.

Thank you for your help.

Rohan Cross, Staff Nurse.

I have read the information above, and have had the study explained to me in person. I would like to take part in this study, understanding that all information I give will be kept confidential and anonymous and that I can withdraw from the study at any time.

Signed. Date.

APPENDIX 3

Consent form

I am conducting a research study into the needs of patients and how we meet their needs. Ideally effective nursing occurs when the aspirations and expectations of both patient and practitioner are realised. I would like to interview patients to discover their expectations of the practitioners. I shall also be observing and talking to patients to discover their perceived needs. In doing this I hope to discover ways of improving the service of care we provide.

All information in the study will be completely confidential, it will not be passed onto anyone else during the study. When I write the final report all personal details about persons involved will be removed, so that everyone will be anonymous.

If you are interested in taking part, I will leave an information sheet about the study for you to consider and I shall return later to answer any questions. If you would like to take part could you sign in the space below. Please feel free to ask any questions about the study and remember that you can change your mind at any time and withdraw from the study if you want to.

Thank you for your help.
Rohan Cross, Staff Nurse.

I have read the information above and have had the study explained to me in person. I would like to take part in this study, understanding that all information I give will be kept confidential and anonymous and that I can withdraw from the study at any time.

Signed. Dated.

APPENDIX 4

Interview schedule

I am a staff nurse on this ward and I am doing a research project for a PhD. I am working with Dr J Reed and Dr J Potts at the University Of Northumbria at Newcastle. The aim of the study is to discover perceptions of patients' needs, how theses needs are met and by whom. Patients shall be asked to give their views and opinions, so that ideas to improve the quality of care can be formed.

All information gathered would be completely confidential and anonymous. The Consent form, which you have signed, is to ensure that you have had the study explained to you and you can withdraw at any time if desired.
Remember that there are no right or wrong answers and that I am interested in your views.

Start Tape
1. Topic; Trigger Question to get the respondent to relax and talk generally about their stay in hospital.
Question - Could you tell me a little bit about your stay in hospital?
Prompt - Have you been in hospital before?
2. Topic; to explore respondent's awareness of different staff and who people are.
Question - Different staff see you for different reasons, when I say staff I mean any one who is involved in your care i.e. auxiliaries, domestics, occupational therapists, physiotherapists, dieticians, clergy not just nurses. Could you tell me which members of staff have been involved in your care so far?
Probe.
What other members of staff have you met whilst in hospital?
Can you think of any other staff members you have not yet met, but would like to meet or thought you would see?
3. Topic; To explore what patients' perceived needs are.
Question

Staff do many things for different patients, could you tell me how the staff have been helping you?

Probe

Washing, moving, information, support.

Can you think of any other things the staff help you with?

What kind of things have they been doing for you?

4 Topic: To explore with respondents which member of staff meets which needs or what they think different staff do for them.

Question would you be able to tell me some of the things the;

a nurse

b auxiliary

c physiotherapist

d occupational therapist

e doctor

f dietician

g clergy

h domestic

do for you? Could you give me some examples?

Probe; what other things do you think these people do?

Has anyone else in hospital helped you that we have not mentioned yet?

5 Topic; to explore with respondent how their needs or care giving could be improved.

Question - Has there been any aspect of your care that you are unhappy with?

Could you suggest how to improve it?

Can you think of anything that would have made your stay better?

What have you found most helpful from staff?

Any thing else you want to say?

Thank respondent.

APPENDIX 5

Abbreviations Searched for to Divide The Observational Data.

The abbreviations and words were searched for in N.U.D.I.S.T. files to divide up the observational data into three parts. These were the patients, family, and staff.

1. The patient text, indicated text, which involved the patient. Each observation was first looked at to see how the text was marked to represent where the patient was in a text unit, for example PT1 or patient one. Once identified all occurrences of the markers and the accompanying text were stored in a separate node. This isolated all the text where the patients were involved in the observations.

2. The family text showed where each observation was looked at, to see what markers were used to represent text, where visitors, family or friends occurred. For example visitor, V, man, Tom, lady one, Lady two, child, visitor one, visitor two, visitor three, visitor and visitor, wife, girl, pizzaman, patient four, patient one, man, patient five, visitors, husband and patient ten. These were all searched for, to identify text where family or visitors occurred, and these sections of text were isolated.

3. The staff text showed where each observation was looked at to see what markers were used to represent text where staff were involved. For example, me, staff nurse, auxiliary, domestic, doctor, staff nurses (Sn), trolley, physiotherapists, students (St), auxiliary two, Consultant, (cons, con), porter, dietician, paper man (PM), WRVS, house officer (HO), bank nurse (BN), occupational therapist (OT), Chaplain, Plaster technician, Jim, Sister and trolley man.

As a result of these searches each observation was separated into the sets of patients, family and staff.

APPENDIX 6

Operationalized definitions

These codes were attached to sections of text data that reflected the meaning of what was occurring in that text. The following codes were used to analyse the data and clarify what was occurring in each data type.

1 **Safe Environment (safe)**: This code was applied to all text units where staff, patients or relatives took action or carried out a function to prevent or maintain the patient in a safe position, for example prevention of infection and accidents.

2 **Communicating**: This code identified all text where there was evidence of exchanges between staff, patients or relatives.

3 **Breathing**: This code identified all text units where the staff, patient or relatives discussed or mentioned needs connected with breathing, including positioning of the patient, coughs or suspected infections, the use of oxygen or giving medication, for example nebulisors or inhalers. This included episodes of breathlessness, skin pallor change and how the patient was feeling.

4 **Eating and drinking**: Identified all text units where eating and drinking took place, or was discussed. This code was attached to text involving the discussion or giving and taking of food and drink. Including the patient taking drinks and requesting them or needing help with feeding. This also referred to eating and appetite, intravenous fluids and fluid balance.

5 **Elimination**: Identified all text units where urine, faeces or going to the toilet is mentioned or discussed, including maintenance of a normal routine, medication given or requests by staff and relatives.

6 **Cleansing and Dressing**: Identified all text units where personal cleansing and dressing was referred to by staff patients or relatives. Including, washing and toiletries, clothes, dirty washing, changing sheets or ways to keep clean and dressed.

7 **Temperature:** This code identified references to controlling body temperature including recording fluctuations, feeling hot or cold and any action taken to control it, fans, medication, etc. by the staff patients or relatives.

8 **Mobilizing (mobility)**: Identified text units where movement was mentioned by staff patients or relatives including, physiotherapy, teaching, advice, help needed to move from staff or relatives, use of moving aids, crutches, wheelchair etc.

9 **Working and playing:** Identified text units where references were made to where patients' work, and where patients, staff and relatives discussed any ways to relax or have entertainment.

10 **Expressing Sexuality**: Identified text units where sexuality was addressed or mentioned by patients staff or relatives, and where patients exhibit signs of sexuality, male, female difference, in dressing, make up, patient reference to sexuality and maintaining it.

11 **Sleeping**: Identified text units where the patient sleeps or has problems with sleeping, tablet taking or medication. This code was attached to text where sleeping was discussed, ways of promoting it, hot drinks, noise, lights, reference to nightmares and when patients slept well, or during the day.

12 **Dying:** Identified text units where staff patients or relatives talk, reminisce about others death or their own, reference to ghosts, death of animals.

Not In Model Codes (NIM)

These represented issues that could not be easily identified under the model codes. These codes were created and interpreted by the researcher and as such remain constructions of this researcher. The following shows the codes used in this study.

1 *Pain*: This code identified occurrence and evidence of pain, verbal or physical, (rubbing grimacing) asking or refusing pain relief or discussing pain.

2 *Worry*: Identified text units where the patient expressed concern, for example to problems of patient or relative at home, car, rent, pets, moving, discharge, dislike of being in hospital, bills etc.

3 *Experience, reminiscence (exp rem)*: Identified text units where patients talk about the past recent or recent times.

4 *Feel*: Identified text units where the patients' emotions were expressed by the patient or from enquiries by relatives or staff.

5 *Relative information (Rel. Info.)*: attached to all text units where staff and relatives were in contact. This identified the need of relatives to be informed and where staff interacted with relatives or relatives asked the patient about care.

6 *Staff:* Attached to all text units where staff interacted with other staff.

7 *Staff and patient (staff pt)*: Applied to all text units where staff asked patients about their care or the making of small talk and also vice versa.

8 *Relative visitor (Rel. Vis.)*: Applied to all text units where relatives or visitors fill a need for a patient for example, entertainment, orientation, home news, clean clothes, toiletries, dirty washing etc.

9 *Discharge*: This code was applied to all text units where reference was made to the planning and organizing of discharge between patients, relatives and staff.

10 *Patients (pts)*: This code represented all text units where patients interacted together, become friends, joking, chatting or entertain each other.

11 *Information giving (info give)*: This code was applied to all text units where staff patients or relatives gave advice, reassurance or information to the patient.

12 *Visitor relative information (Vis. Rel. Info.)*: This code was applied to all text units where visitors or relatives asked for information from staff or patients.

13 *Bored*: This code was attached to text units where the patient appeared bored, restless, fidgeting etc.

14 *Patient seeking (pt seek)*: This code was attached to all text units where patients actively asked for information from staff or relatives or other patients.

15 *Control:* This code was attached to text units where there was evidence that the patient controls care, or has a choice about his / her care, or directs needs of another patient. It also noted instances of control given patients by other patients, staff or relatives.

16 *Documentation (docu)*: This code was attached to text units that involved notes, documenting care where patients or staff used or referred to care plans or notes. The *documents* code noted text units that contained references to writing care plans or referred to other documents of care by the staff, patient or relative e.g. temperature charts, food charts, nursing care plans, doctors notes etc.

17 *Orientation (orient)*: This code was attached to text units where patients were orientated to surroundings, people, time, and current news by staff, patient or relatives.

18 *Observation (obs):* This code was attached to text where there was evidence that patients were observing staff. The last code in this stage was *observation, which* represented text units where patients were watching staff or other patients on the ward.

Codes emerging from the Interviews (The patients perspective.)

1 *Quick*: This code was attached to text units where patients and staff referred to the importance of fast care, noting occurrences of patients' comments on a quick response to care, for example; no waiting around, "there when I need them", and where staff displayed attentiveness.

2. *Nil*: This code was attached to text units where the patients showed signs of not understanding or would not answer the question. This code was also attached to text where the patient was

unsure of who staff were. They were not aware of the multidisciplinary team, and did not see it as important.

3 *Aware*; This code was attached to text units where patients exhibited some knowledge about the multidisciplinary team and the different roles of staff.

4 *Friendly*: This code was attached to text units where patients felt staff exhibited an approachable manner, and also where the patient mentioned a positive attitude from staff.

5 *Teamwork*: This code was attached to text where staff worked together, in organising care.

6 *Practical:* This code was attached to text where maintaining care was carried out, that is resiting venflons, replacing catheters and waiting for equipment i.e. mechanical lifts.

7 *Spiritual*: This noted text units that referred to the church, or God, where patients requested nurses to let the chaplain know they were in hospital. This code was also attached to text where the clergy was present e.g. social worker involvement with clergy to get travelling expenses for relatives.

8 *Confidence*: This codes was applied to text units where patients comment on staff, and shows that they trust and admire staff trust, where staff gave reassurance to the patient.

Codes Emerging from the Care Plans

1 *Repeat*: Noted text units that contained a repeated phrases e.g., areas intact, nil deficit, no complaints of pain, bowels opened etc.

2 *Skin*: This code was attached to text units that referred to comments on the patients skin, i.e. how it looks, feels, also action taken to protect the skin.

3 *Circulation (circu)*: The circulation code refers to text units where the circulation of a limb is being tested, or blood perfusion commented on for example; swollen, elevation. This code was

also applied to nursing actions taken to aid circulation, and where a record of poor or good circulation was made.

4 *Infection (infect)*: Refers to text units that contained a reference to infection, e.g. signs of infection or of the absence of infection. Also this code was attached to text that noted methods taken to prevent infection. For example use of antibiotics, redressing of wounds etc.

5 *No code (ncode)*; Represented text units that had no codes attached to them.

6 *Comfort*: Text units where the patient or staff referred to making the patient at ease, or actions to alleviate reasons for discomfort.

APPENDIX 7

How the Single and Multiple Coding was Calculated.

Observations Single Codes (TU is Text Unit)

Codes	Singly coded TU	Codes	Singly coded TU
Safe environment	70 from 181 TU	**Information giving**	83 from 283 TU
Communication	535 from 1735 TU	**Visitor relative information**	36 from 56 ITU
Breathing	5 from 21 TU	**Bored**	23 from 217 TU
Eating and drinking	123 from 330 TU	**Patients seek**	68 from 257 TU
Elimination	16 from 69 TU	**Control**	79 from 373 TU
Cleansing and dressing	21 from 101 TU	**Documentation**	21 from 325 TU
Temperature	19 from 113 TU	**Orientation**	10 from 161 TU
Mobilizing	50 from 291 TU	**Observation**	43 from 259 TU
Working and playing	60 from 447 TU	**Quick**	0 from 10 TU
Sexuality	1 from 14 TU	**Nil**	0 from 0
Sleeping	115 from 241 TU	**Aware**	0 from 0
Dying	0 from 9 TU	**Friendly**	0 from 0
Pain	22 from 159 TU	**Teamwork**	11 from 332 TU
Worry	7 from 110 TU	**Practical**	0 from 0 TU
Experience reminiscence	23 from 137 TU	**Spiritual**	1 from 25 TU
Feel	22 from 204 TU	**Confidence**	0 from 0 TU
Relative information	6 from 33 TU	**Repeat**	0 from 22 TU
Staff	95 from 405 TU	**Skin**	0 from 13 TU
Staff patient	64 from 190 TU	**Circulation**	0 from 20 TU
Relative visitor	101 from 272 TU	**Infection**	0 from 19 TU
Discharge	4 from 296 TU	**No code**	29 from 29 TU
Patients	60 from 271 TU	**Comfort**	0 from 70 TU

1. Total single coded TU from Observations = 1832 TU

Total TU in observations = 5811 TU

Multiple coded TU = 3988 TU

Interviews Single Codes

Codes	Single coded TU	Codes	Single coded TU
Safe environment	3 from 35 TU	**Information giving**	8 from 63 TU
Communication	1 from 37 TU	**Visitor relative information**	0 from 0 ITU
Breathing	3 from 9 TU	**Bored**	3 from 19 TU
Eating and drinking	9 from 31 TU	**Patient seeking**	0 from 2 TU
Elimination	3 from 21 TU	**Control**	15 from 53 TU
Cleansing and dressing	4 from 20 TU	**Documentation**	1 from 88 TU
Temperature	0 from 8 TU	**Orientation**	11 from 21 TU
Mobilizing	6 from 64 TU	**Observation**	0 from 0 TU
Working and playing	0 from 2 TU	**Quick**	4 from 15 TU
Sexuality	0 from 0 TU	**Nil**	79 from 97
Sleeping	1 from 9 TU	**Aware**	14 from 31
Dying	1 from 4 TU	**Friendly**	6 from 15
Pain	2 from 25 TU	**Teamwork**	14 from 68 TU
Worry	1 from 18 TU	**Practical**	1 from 3 TU
Experience reminiscence	17 from 42 TU	**Spiritual**	11 from 17 TU
Feel	23 from 101 TU	**Confidence**	3 from 36 TU
Relative information	0 from 1 TU	**Repeat**	0 from 63 TU
Staff	1 from 126 TU	**Skin**	0 from 11 TU
Staff patient	0 from 0 TU	**Circulation**	0 from 1 TU
Relative visitor	0 from 1 TU	**Infection**	0 from 10 TU
Discharge	10 from 31 TU	**No code**	21 from 44 TU
Patients	3 from 7 TU	**Comfort**	2 from 27 TU

2. Total single codes = 276 TU

Total interview TU = 1214 TU

Total multiple TU = 938 TU

Care Plans Single Coded

Codes	Single coded TU	Codes	Single coded TU
Safe environment	234 from 469 TU	**Information give**	1 from 4 TU
Communication	24 from 90 TU	**Visitor relative information**	0 from 0 ITU
Breathing	30 from 75 TU	**Bored**	0 from 8 TU
Eating and drinking	19 from 50 TU	**Patient seek**	0 from 0 TU
Elimination	68 from 99 TU	**Control**	12 from 78 TU
Cleansing and dressing	48 from 73 TU	**Documentation**	11 from 102 TU
Temperature	32 from 96 TU	**Orientation**	9 from 28 TU
Mobilizing	50 from 108 TU	**Observation**	0 from 56 TU
Working and playing	1 from 8 TU	**Quick**	0 from 8 TU
Sexuality	0 from 0 TU	**Nil**	0 from 22 TU
Sleeping	13 from 22 TU	**Aware**	0 from 15 TU
Dying	2 from 2 TU	**Friendly**	0 from 0 TU
Pain	110 from 184 TU	**Teamwork**	3 from 156 TU
Worry	0 from 0 TU	**Practical**	1 from 7 TU
Experience reminiscence	2 from 12 TU	**Spiritual**	1 from 16 TU
Feel	15 from 34 TU	**Confidence**	0 from 0 TU
Relative information	0 from 1 TU	**Repeat**	1 from 160 TU
Staff	74 from 220 TU	**Skin**	0 from 51 TU
Staff patient	0 from 0 TU	**Circulation**	0 from 7 TU
Relative visitor	0 from 0 TU	**Infection**	1 from 24 TU
Discharge	21 from 96 TU	**No code**	0 from 0 TU
Patients	0 from 0 TU	**Comfort**	15 from 15 TU

3. Total number of single from care plans = 810 TU

Total TU in care plans = 1646 TU

Multiple coded TU = 836 TU

4. The total number of TU in the project = 8671 TU

Total number of single TU in the project = obs single TU + interviews single TU + care plans single TU

= 1823 TU + 276 TU + 813 TU

=2912 TU

5. Number of multiple codes in project = Total TU in project - total single TU

= 8671 TU - 2912

=5759 TU

APPENDIX 8

The Multiple codes

How the Activities of Living codes occur together in the three data types (The numbers in brackets represent the actual number of finds. Bold type shows those that occur across all three data types.)

Table A8.1 Activities of Living and Activities of Living

Codes	Observations	Interviews	Care plans
safe environment	**communication (29) eating + drinking (10) mobility (9) temperature (6) elimination(2)** sleep(1) working and playing(1)	**mobility(8) eating + drinking(5) elimination(3) communication(2)** cleansing + dressing(2) sleep(1) **temperature(1)**	**communication(20) temperature(20) mobility(20)** breathing(15) **elimination(11) eating + drinking(6)**
communication	working + playing(106) eating + drinking(82) mobility(50) sleep(38) temperature(30) **safe(29)** cleansing + dressing(14) elimination(13) sex(3) dying(2)	mobility(7) cleansing + dressing(3) elimination(2) **safe(2)**	**safe**(20)
breathing	working + playing(5) sleep(4) **mobility(2)**	**mobility(1)** eating + drinking(1)	temperature(17) safe(15) elimination(10) **mobility(3)**
eating and drinking	communication(82) working + playing(12) mobility(12) **safe(10) elimination(2)** dying(2)	**safe(5)** mobility (5) cleansing + dressing(2) **elimination(1)** breathing(1)	**safe(6) elimination(4)** sleep(1)
elimination	communication(13) mobility(10) **temperature(4) safe(2)** working + playing(2) eating + drinking(2) cleansing + dressing(1) dying(1)	mobility(4) **safe(3)** communication(2) cleansing + dressing(2) **temperature(1)** eating + drinking(1)	**safe(11)** breathing(10) **temperature(9)** eating + drinking(9) sleep(1)
cleansing and dressing	communication(14) mobility(7) safe(2) sex(1) elimination(1)	mobility(5) communication(3) eating + drinking(2) elimination(2) safe(2) temperature(1)	No finds
temperature	communication(30) **safe(6) elimination(4)** sleep(3) working + playing(2) sex(1)	**safe(1)** cleansing + dressing(1) **elimination(1)**	**safe(20)** breathing(17) **elimination(9)**
mobility	communication(50) working + playing(28) eating + drinking(12) elimination (10) **safe(9)** cleansing + dressing(7) **breathing(2)**	**safe(8)** cleansing + dressing(5) communication(4) elimination(4) eating + drinking(4) **breathing(1)**	**safe(20) breathing(3)**

working and playing	communication(106) mobility(28) eating + drinking(12) sleep(11) breathing(5) sex(4) elimination(2) temperature(2) safe(1)	No finds	No finds
sexuality	working + playing(4) communication(3) temperature(1) cleansing + dressing(1)	No finds	No finds
sleeping	communication(38) working + playing(11) mobility(7) breathing(4) temperature(3) safe(1)	safe(1)	Elimination(1) eating + drinking(1)
dying	communication(2) eating + drinking(2) elimination(1)	No finds	No finds

Table A8.2 How NIM and AL codes occur together

The numbers in brackets represent the actual number of finds. Bold type shows those that occur across all three data types. Abbreviations used: ciru - circulation, docu - documentation, exp. Rem. - experience reminiscence. Info. Give - information giving. N.code – no code. Obs- observations. Pt seek – patient seek. Rel. Info. – relative information. Rel. V. – relative visitor. Staf. P. – Staff patients codes.

Model Codes	Observations	Interviews	Care plans
safe	circu(17) **teamwork(15)** infect(12) pain(9) Info give(8) skin(6) feel(6) skin(4) docu(4) obs(3) exp rem(3) pt seek(3) worry(2) comfort(2)	infect(8) info give(6) feel(5) repeat(4) **teamwork(4)** comfort(2) friendly(1) orient(1) worry(1) exp rem(1) circulation(1)	repeat(100) staff(49) skin(23) **teamwork(14)** discharge(14) orient(10)
communication	control(139) pt seek (136) patients(129) feel(104) info give(102) Rel. V.(89) exp rem(72) staff(59) worry(56) orient(55) **teamwork(49)** **discharge(43)** pain(41) staf pt(38) spiritual(21) bored(17) docu(17) Rel. Info.(17) Vis. Rel. Info.(14) repeat(12) comfort(11) quick(5) infect(4) practical(2)	repeat(11) feel(7) friendly(7) info give(6) **teamwork(4)** spiritual(3) bored(3) control(3) confidence(2) **discharge(1)** orient(1) quick(1)	**discharge(14)** **teamwork(10)** pain(3)
breathing	bored(5) orient(2) control(1) teamwork(1)	info give(1)	staff(9) infect(8) pain(3) docu(2)
eating + drinking	staf pt (19) pt seek(16) **feel(12)** patients(10) pain(10) bored(8) obs(8) Rel. Vis.(7) staff(6) teamwork(6) info give(5) worry(5) exp rem(2)	**feel(4)** repeat(3) control(2) infect(1) discharge(1) exp rem(1) info give(1) teamwork(1) aware(1) pain(1)	staff(9) docu(4) repeat(2) **feel(1)**
elimination	**teamwork(10)** **control(9)** feel(9) staff(4) Rel. V.(4) docu(3) info give(3) pt seek(3) exp rem (2) bored(1)	repeat(5) confidence(3) pain(3) exp rem(2) discharge(2) **control(2)** comfort(2) quick(2) info give(2) **teamwork(1)**	staff(7) **teamwork(4)** **control(2)**
cleansing + dressing	teamwork(23) **control(20)** info give(10) Rel. V.(9) staf pt (9) staff(6) feel(5) comfort(5) pt seek(4) patients(3) worry(3) pain(2)	**control(3)** comfort(3) repeat(3) feel(3) pain(2) info give(2) exp rem(1) skin(1) worry(1)	**control(17)** repeat(8)
temperature	docu(13) info give(9) pt seek(7) control(7) staf pt(6) discharge(5) worry(4) staff(4) comfort(3) patients(2)	comfort(2) control(1) info give(1) pain(1)	feel(4)

	pain(2) circulation(2) Rel. V.(2)		
mobility	control(35) teamwork(34) info give(27) bored(24) feel(17) **pain(16)** comfort(12) **discharge(11)** pt seek(9) Staff(8) staf pt(8) worry(7) exp rem(6) orient(5) skin(3) circulation(1)	info give(16) repeat(14) teamwork(13) feel(8) **discharge(8)** comfort(5) **pain(5)** confidence(4) exp rem(3) worry(3) infect(2) bored(2) quick(1) pt seek(1)	repeat(8) **discharge(5)** **pain(4)**
working + playing	**bored(72)** orient(52) patients(30) Rel. V.(16) obs(11) exp rem(7) control(6) staff(5) pain(3) discharge(3) docu(1)	**bored(1)**	**bored(7)**
sexuality	Rel. V.(6) patients(1)	No finds	No finds
sleeping	bored(18) exp rem(10)feel(9) worry(8) pain(7) patients(5) pt seek(5) control(4) staff(2) Rel. Info.(1) teamwork(1)	feel(2) skin(1) control(1) worry(1) comforts(1) bored(1)	No finds
dying	exp rem(4) Rel. V.(4) orient(1)	exp rem (1) repeat(1)	No finds

Table A8.3How the Not In Model (NIM) and NIM codes occur together.

(The numbers in brackets represent the actual number of finds. Bold type shows those that occur across all three data types.)

CODES	Observations	Interviews	Care plans
pain	control(36) docu(10) info give(9) staf pt(8) worry(7) pt seek(6) **exp rem(5)** feel(4) staff(3) Rel. V.(3) circulation(2) patients(2) bored(2) obs(1)	comfort(4) repeat(3) quick(1) infect(1) **exp rem(1)** control(1)	repeat(17) teamwork(8) staff(8) feel(4) discharge(2) docu(2) **exp rem (2)** info give(1)
worry	exp rem(12) Rel. V.(11) discharge(10) feel(9) pt seek(7) pain(7) repeat(5) orient(5) control(5) patients(4)spiritual(2) skin(2) obs(1) bored(1) comfort(1)	info give(5) control(4) feel(4) repeat(3) ncode(2) exp rem(1) infect(1)	No finds
Experience reminiscence	patients(21) feel(14) worry(12) discharge(7) pt seek(6) **pain(5)** Rel. V.(3) orient(3) **repeat(3)** info give(2) teamwork(1)	Feel(11) **repeat(4)** orient(2) discharge(2)confidence(1) worry(1) comfort(1) spiritual(1) **pain(1)**	**repeat(2) pain(2)** staff(2)
Feel	control(14) exp rem(14) discharge(12) worry(9) staf pt (8) pt seek (7) comfort(7) pain(4) repeat(4) Vis. Rel. Info.(4) staff(3) patients(3) Rel. Info.(2) info give(1) Rel. Vis.(1) skin(1) circulation(1) quick(1) bored(1)	Repeat(15) exp rem(11) confidence(9) ncode(8) teamwork(7) control(7) info give(7) worry(4) comfort(3) quick(3) nil(3) infect(2)friendly(1) skin(1)	Pain(4) discharge(2) teamwork(1) practical(1)
Relative information	feel(3) Vis. Rel. Info.(2) discharge(2) info give(1) worry(1) orient(1) teamwork(1)	control(1)	No finds

Staff	**teamwork(191)** comm(21) discharge(7) staf pt (7) info give(6) **control(5)** feel(3) Rel. V.(2) practical(2) spiritual(2) circulation(1)	**Teamwork(2) control(1)** friendly(1) infect(1) feel(1) info give(1)	**teamwork(40)** discharge(19) repeat(16) docu(8)practical(3) pain(3) **control(3)** exp rem(2)
Staff patient	control(18) teamwork(17) comfort(13) docu(10) pain(8) staff(7) info give(3) bored(1)	No finds	No finds
Relative visitor	orient(20) control(16) worry(11) pt seek(8) teamwork(7) discharge(6) Rel. Info.(4) exp rem(3) comfort(3) pain(3) info give(2) staff(2) feel(1)Vis. Rel. Info.(1)	feel(1)	No finds
Discharge	**teamwork(14) feel(12) info give(11)** worry(10) patients(10) pt seek(7) exp rem(7) staff(7) Rel. V.(6)Vis. Rel. Info.(4) **control(4)** orient(3) pain(3) infect(2)	**info give(4) control(3) feel(3) teamwork(3)** confidence(3) repeat(3) orient(2) exp rem(2) ncode(1) worry(1)	**teamwork(30)** staff(19) **control(3)** docu(3) pain(2) **feel(2) info give(1)**
Patients	exp rem(21) orient(14) discharge(10) pt seek(7) spiritual(6) control(4) worry(4) feel(3) bored(3) info give(3) obs(3)	No finds	No finds
Information giving	**teamwork(44)** discharge(11) pain(9) docu(7) staff(6) control(6) comfort(5) pt seek(4) feel(4) orient(3) infect(3) staf pt(2) exp rem(2)skin(1) Vis. Rel. Info.(1)	repeat(9) **teamwork(7)** feel(7) worry(5) ncode(5) confidence(3) pt seek(2) skin(1)	discharge(1) pain(1) **teamwork(1)** orient(1)
Visitor relative information	discharge(4) Rel. Info.(2) infect(1) teamwork(1)	No finds	No finds

Bored	obs(43) orient(10) pt seek(3) patients(3) teamwork(2)control(1) worry(1)	repeat(5) comfort(2) feel(2) exp rem(1) aware(1) teamwork(1) control(1) feel(2)	No finds
Patient seeking	orient(17) Rel. V.(8) patients(7) feel(7) control(7) discharge(7) worry(7)pain(6) exp rem(6) info give(4) circulation(1) infect(1)	info give(2) orient(1) feel(1)	No finds
Control	pain(36) staf pt(18) **teamwork(16)** Rel. V.(16) feel(14) comfort(11) pt seek(7) info give(6) worry(5) patients(4) docu(3) exp rem(2)	feel(7) repeat(6) confidence(5) **teamwork(4)** worry(5) ncode(3) comfort(3) discharge(2) quick(2) pain(1) bored(1)	repeat(13) staff(3) discharge(3) **teamwork(2)** spiritual(1)
Documentation	obs(34) pain(10) staf pt(10) info give(7) staff(7) teamwork(6) control(3) practical(1) comfort(1)	info give(1)	staff(8) teamwork(3) pain(2)
Orientation	Rel. V.(20) pt seek(17) patients(14) exp rem(3) discharge(3) **info give(3)**spiritual(2) control(2)	**info give(3)** discharge(2) exp rem(2) pt seek(1) teamwork(1)	repeat(4) **info give(1)**
Observation	bored(43) docu(34) staff(21) teamwork(10) orient(9) patients(3)pain(1) discharge(1) worry(1)	No finds	No finds

Table A8.4 Care plan and interview codes with the not in model (NIM) codes and how they occur.

(The numbers in brackets represent the actual number of finds. Bold type shows those that occur across all three data types.)

CODES	OBSERVATIONS	INTERVIEWS	CARE PLANS
Quick	exp rem(2) feel(1)	repeat(3) feel(3) teamwork(2) control(2) pain(1) ncode(1)	No finds
Nil	No finds	repeat(9) teamwork(6) ncode(3) feel(3) confidence(2) friendly(1) spiritual(1)	No finds
Aware	No finds	teamwork(15) info give(1) bored(1)	No finds
Friendly	No finds	repeat(3) feel(1) nil(1) control(1)	No finds
Teamwork	**staff(191) info give(44)** staf pt(17) **control(16)** obs(10) Rel. V.(7) docu(6) infect(4) comfort(3) **practical(2)** Vis. Rel. Info.(1) exp rem(1) orient(1) Rel. Info.(1)	aware(15) repeat(12) **info give(7)** feel(7) confidence(7) nil(6) **control(4)** discharge(3) ncode(3) quick(2) infect(2) **staff(2)** orient(1) **practical(1)**	staff(40) discharge(30) pain(5) docu(2) **control(2) info give(1)** feel(1) **practical(1)**
Practical	staff(2) **teamwork(2)** info give(1) docu(1) comfort(1)	pain(1) **teamwork(1)**	staff(3) **teamwork(1)** feel(1)
Spiritual	patients(6) exp rem(5) worry(2) orient(2) staff(2) info give(2)	teamwork(1)repeat(1) exp rem(1) nil(1)	control(1)
Confidence	No finds	repeat(9) feel(9) teamwork(7) control(5) discharge(3) infect(2) worry(1) exp rem(1)	No finds
Repeat	worry(5) feel(4) patients(3) exp rem(3) pt seek(3) info give(1)	feel(15) teamwork(12) ncode(11) confidence(9) nil(9) info give(9) control(6) bored(5) exp rem(4) comfort(4) friendly(3)	pain(17) skin(12) staff(10) orient(4)

		pain(3) quick(3) discharge(3)	
Skin	pain(2)worry(2) info give(1) feel(1) exp rem(1)	teamwork(12) feel(1)	repeat(12)
Circulation	pain(2) info(1) pt seek(1) worry(1) docu(1) staff(1) teamwork(1)	No finds	No finds
Infection	**teamwork(4)** discharge(2) info give(3) pain(1) pt seek(1) Vis. Rel. Info. (1)	info give(2) **teamwork(2)** feel(2) confidence(2) pain(1) worry(1) staff(1)	**teamwork(4)**
No code	No finds	repeat(11) feel(8) info give(5) nil(3) control(2) worry(2) comfort(1)	No finds
Comfort	staf pt(13) control(11) info give(5) teamwork(3) Rel. V.(3) patients(3) docu(1) practical(1) staff(1) worry(1)	repeat(4) pain(4) control(3) feel(3) quick(2) bored(2) exp rem(1) confidence(1)	No finds

APPENDIX 9

Text examples of codes

Table A9.1 Examples of text attached to the twelve Activities of Living codes from the observations.

(Sn - staff nurse, Pt - patient, St- student, Con - consultant, V – visitor, TU- text unit)

Code	Occurrence of codes in number of TUs	Example
Safe Environment. (TU where staff, patient or relatives take action or carry out a function to prevent or maintain the patients safety)	181 from 5817	1. Sn "Are you alright there John you look as though you are going to fall out of bed?" Helps pt sit up in bed sorts the pillows, talks briefly quietly. 2. Auxiliary (Enters with equipment to do blood pressure, approaches pt (takes blood pressure of pt 1 and 2.)
Communication (TU where exchanges between staff, patients or relatives are found.)	1735 finds from 5817	1. Pt and visitor discuss bill and when to pay it. Visitor hands another letter "Shall I take these home?" 2. Pt "Saint Robert's is a rich parish they managed the Xmas mass lovely." Pt2 "I liked them all my life, met my husband their, he was a desert rat, besides my parents that's where we met."
Eating and Drinking (TU with reference to the discussion or giving of food and drink.)	330 finds from 5817	1. Visitor & pt talk to together; Visitor pulls out sweet gives him one. Pt Pours himself a drink from locker of juice asks Visitor "Would you like some?" Visitor "Go on then" (They share a glass then begin to talk again) 2. Pt "Look at that, gives news to visitor" begins to eat food offers ice cream to visitor.
Elimination. (TU where urine, faeces or going to the toilet is mentioned by staff, patients or relatives.)	69 finds from 5817	1. Pt "Bed pan please, are you busy?" 2. Auxiliary "John you can't go to bed until after your tea" Pause "John stay up and we will help you into bed after your tea." pause "Do you need a bottle?"

Cleansing and Dressing (TU where washing and dressing is referred to by staff patients or relatives.)	101 Finds from 5817	1. Pt "What do they do about washing my hair when I am like this?" Sn "They may just dampen it not submerge it because of the pins in your head." 2. Sn "Your hands will be lovely and soft by the time you leave." Sn "I will be ready to give you a wash soon, I will just see to another lady down the other end then I will come to you, OK."
Breathing (TU where staff, patients or relatives mention or discuss needs connected with breathing)	21 finds from 5817	1. Pt Coughs. "Eh I We had them in here" Meaning inhalers in the locker. 2. Pt "The woman stands beside the bed all day, you can hear him breathing at night and coughing."
Temperature (TUs referring to controlling, maintaining or recording body temperature by the patient, staff or relatives.)	113 finds from 5817	1. Dr "How's your temp been?" 2. Lady looks through temperature chart. Man "Do you understand that?" Lady "No do you?" hands chart over to lady. 5. Pt "I have to keep moving my toes, my skin will eat my foot up. I'm on heparin now and antibiotics, between this happening and my mother in law, I am all upside down, temp up."
Mobility (TUs where moving is mentioned by staff patients or relatives)	291 finds from 5817	1. Sn "I'll give you a sling as well, you know to keep your arm elevated." 2. Sn "I will just get another pair of hands." Sn Walks in "I am just waiting on help to arrive." Auxiliary enters They both lift. "123 Lift" Off bed pan. Sn "Would you like to go anywhere whilst we are here eh" Sn "I will sort your pillows first." 3. Sn "Well we need to check with the consultant, before we send you home, about you weight bearing. He comes around tomorrow so we will know then all right."
Working and Playing (TU where patient staff or relatives discuss, or exhibit signs of entertainment and relaxation or work.)	477 finds from 5817	1. Pt Quietly reading a book. 2. Pt Talks to her husband about football husband picks up the news. Husband and Pt talk together quietly, about what's on the TV.

Sexuality (TU where patients, relatives or staff exhibit signs of gender or sexual issues.)	14 finds from 5817	1. Pt Sitting quietly facing the window on to the balcony, wife holding his hand. Pt Holding visitors hand talking quietly. Having his arm stroked by his visitor. Wife "OK see you later." Kisses Pt. 2. Pt "Do you not get hot flushes." Pt Applies lipstick to her lips.
Sleeping (TU where the patient sleeps or staff and relatives mention sleeping and trying to fulfil this need.)	241 FINDS FROM 5817	1. Pt "Yes I would like to go to bed I am tired." 2. Pt Sitting up in the bed eyes shut. Pt "Bless you." Then goes back to sleep eyes shut, pause wakes, goes back to sleep again, and domestic walks past the door again.
Dying (TU where the patient, staff or relatives discuss or refers to aspects connected with death and dying.)	9 FINDS FROM 5817	1. "My niece sends us Christmas cake with whiskey in it, it was lovely, I will put my order in for another, if I am still here." Laughs. 2. Pt "Juice and pudding pause you know they never give you a napkin. Pause. You know I worry about my mother in law I think that black bird is waiting for her."

Table A9.2 Table of Not In Model codes with text attached and occurrence in observations.

(Sn - staff nurse, Pt - patient, St- student, Con - consultant, V – visitor TU-text unit)

Code	Occurrence of codes in number of TUs	Example
Pain (TU where evidence of pain can be found, talking about pain or rubbing grimacing asking or refusing pain relief to be made more comfortable)	159 from 5817	1. Auxiliary "She says it is too tight." Sn "We will have a look at it" pause "It looks OK but I will put it on loosely for you." 2. Visitor Gives the present to pt "Have you been up today?" Pt "Yes it was painful."

Worry (TU where the patient staff or relatives express concern about home or hospital issues.)	110 from 5817	1. Pt "She always talks about the fire, I wonder if its to do with the water bed, she can't even remember if she has eaten her dinner." 2. Pt "She has been shouting all night like that it gets on your nerves pause It must get on the nurses nerves, I mean sharing a house with her it would drive you mad, but she doesn't really know what she is doing
Experience and Reminiscence (TU where Patients staff or relatives talk about the past or long ago, experiences and things that have happened to them.)	137 from 5817	1. Pt "I would love to see the snowflakes falling again Wistfully Yes pause I fell and one of the pins started to come out, so they replaced my hip." Pause "I've had this one done and it is the second time this one has come out pause I used to be a cook at the RVI years ago. After the last baby and also at Robins hall for 6 years pause I'd love to see a snow flake again, you know when the TV's on I can't see it." 2. Pt 1 "Did you fall?" Pt2 "Yes I do remember getting off the bus and hurrying, two men came in to fill me in (tells us about her accident) I bet they found it funny."
Feelings (TU where the patient expresses their feelings or the patients feeling are identified by staff or relatives.)	204 from 5817	1. Pt "Hello I am a bit lonely can I come in." 2. Woman "So you are tired." Pt. "A weary feeling, its like you are all flat, I feel comfortable in bed. Pause so what's your day been like?" Man "I've had a long day pause would you not prefer to be there?" (pointing at the window) Pt "No I am not interested in built up areas, I am a country person."
Relative information (TU where staff and relatives come into contact, identifying the need for relatives to be informed.)	33 from 5817	V "Will they get you up soon with the plaster, so what have they done?" Pt "Put a plaster on the leg but left the knee exposed, well with padding." Pause. 2. V "Are you enjoying your meals." Pt "I, I, (meaning yes) had chicken but I couldn't cut it with my knife."
Staff (TU here staff interact together)	405 from 5817	1. Sn 2 stands by Sn 1 waiting completes Nursing letter. Sn 1 and Sn 2 talk about an information sheet. 2. St "There's a phone call for a Sn, it is about some tablets that were ordered this morning, on the mobile."

Staff and patients (TU where staff asks patients about care and also vice versa.)	190 from 5817	1. Sn 2 "Is that dry?" Sn 1 "How long have you been up the other end?" 2. Sn 2 "all right Mary? You can lie back there now" Pause "How is that?" 3. St "Not to worry. Where are you going?" Sn "1-2-3-up." Sn 2 "Do you have a pillow under that leg?"
Relative and Visitors (TU where relatives or visitors fill needs for the patient, e.g. home news taking dirty washing, renewing toiletries.)	272 from 5817	1. Pt "They make sure them doors shut don't they." V "Its with them being fire doors." 2. Pt "Eh I, Pause We had them in here" (meaning inhalers) V "Theses must be different ones, these are just little ones not Supposed to have 100 puffs in this one." 4. PT "David and Jackie will be at work won't they? When do they go tomorrow, eh." V "Yes not back until next Friday, having a little holiday" Pt "Maybe try to change their minds." V "No I don't think so."
Discharge (TU where any reference is made to the patient going home or leaving the ward involving staff, patients and relatives or visitors.)	296 from 5817	1. Sn Can be heard talking to Pt in the background about going home and discharge details and Occupational therapists input. "Stay as long as you can, but get that arm better." 2. Sn "Dr says you can go home depending on the results." Sn then turns to Pt to give advice about mobility and her wound.
Information Giving (TU where staff, relatives or patients gave advice, reassurance to the patient.)	283 from 5817	1. CON "Two options, traction for three weeks or a brace, but for the time being it will come out easily, I think a brace would be best. DR "Or would you rather have 3 weeks in bed? Not much of a choice." CON "Well we need a brace, I think it is best, OK, It will take a week to get the brace, (to SN) stay in bed for another week." Drs leave room. Sn Stays "He is going to get a plastic brace under your clothes." 2. Sn "I'll do your dressing OK, I'll show you this time (to visitor) and you can have a try next time. Pause Now then The most important thing is to keep this area here, the pin area sterile. Pause Clean once and then away, pick it up with this one then on to this one, pause, you want to get rid of all the crusts, cleaning around there. Its not too dirty, so I'll Let you have a go." V "Yes OK Here we go." Picks up forceps and begins Sn watches.

Visitor Relative Information. (TU where visitors or relatives asked for information from staff or patients about patient care.)	56 from 5817	1. Pt "The doctors say I can go home any time I want but it is just the social workers" 2. V "Hi did you phone me mum?" puts bag on bed standing in front of the patient "You not got that contraption off yet?" Pt "Its got to be cleaned every day you know" V "Yes to stop any infection. Pause Has sue been in yet?" Pt "Yes just on her own." (Talks to visitor about sensation on his hand).
Patients (TU where patients interact together, become friends joke chat or entertain each other.)	271 from 5817	1. Pt Now awake, eyes shutting again then pt1 strikes up conversation with Pt2 PT1 "I forgot to tell you you've been talking in your sleep." Pt2 "Really you will have to tell me next time what I say (chats back and forward) 2. Pt1 "Yes I am here alone too, come in. What's your name?" Pt2 "Stands at the end of pt. bed and talks. I am Maggie." Pt1 "I am Leslie." pause Pt2 " My friend does a lot of painting, I do nothing except dancing." Pt1 "Where did you go the oxford for dancing? There seems more women go there now than men."
Bored (TU where the patient was bored or showed signs of boredom, fidgeting, restless observing others.)	217 from 5817	1. Pause. Watches visitors talking to the pt and putting things away in his locker. Tapping plaster on his leg, watches the visitor pour a drink, then looks away tapping his hands and wiggling his feet pause watches visitors put pillows at the patients back, TV noises in the background, coughs then wriggles his toes.
Patient seeking. (TU where patients actively asking for information from staff, other patients or relatives.)	257 from 5817	1. Pt "Is every one busy this morning?" Sn "Yes we are." Sn 2 Enters with sheets. Pt "Now what's your name?" Sn "Katy." Sn "Keg will you pass the cream, on top please you are just a little bit sore there." Pt "Yes put a bit there I am sore. Pause Are you used to doing this?"
Control (TU where the patient directed care for themselves or	373 from 5817	1. Pt "Would you pass the buzzer over to me I need the loo." Pt Buzzes & waits. pause Sn enters "Yes who's buzzing." Pt "I need the loo."

other patients.)		2. Sn "I Will give you all the dressings you need as well and then you can go to the clinic and get them to check it." Pause Sn Comes back in with tape; "I will give you this." Pt "Oh I got some of that at home already."
Documentation (TU where notes were involved, referring to the or writing in them.)	325 from 5817	1. Sn "Now where is your cardex? Have you seen it Lesley?" 2. Sn "HI, looks at the tpr chart. Ah You are on daily's." leaves the room.
Orientation (TU where patients were made aware of there surroundings.)	161 from 5817	1. Husband "That will be the programme on TV, that's what that noise is." V "I am not sure" I get up to have a look. "Oh Its the Oxygen tank getting filled up." 2. Pt "Its nearly dinner time, twenty to twelve eh." 3. Pt "what time is it John?" 4. Pt "In America another plot to assassinate the pope did you hear?"
Observation (TU where patients observed staff.)	259 from 5817	1. Doctor and Sn talk outside of the door, John looks and listens to them. 2. Pt puts news down, looks about him, can hear Sn and Auxiliary talking in the next room, looks up as they come out.

Table A9.3 The Interviews codes; examples of text from the interviews.

(sn - staff nurse, pt - patient, st- student, con - consultant, v - visitor, r – researcher, TU –text unit)

Code	Occurrence of codes in number of TUs	Example
Quick (TU where patients and staff referred to the importance of care being fast and efficient.)	15 from 1211	1. Pt "We came up from causality and it was done very quickly, really quickly considering they were really busy. They have been quite quick really in coming." 2. Pt "With the toilet there is no oh I will be back in 5 minutes all the time its instantly like this morning and he sort of I'll do your back for you its not a problem for them just very helpful very nice."
Nil (TU where the patient showed signs of not understanding, or was unable to answer.)	97 from 1211	1. R "Would you be able to tell me some of the things the auxiliary have been doing for you?" Pt "Em What's the difference." R "Do you know the Auxiliaries in brown or the chaps in the white tops?" Pt "Right, right pause well they are basically the same as what the nurses are."
Aware (TU where the patients showed signs of understanding, exhibiting some knowledge.)	31 from 1211	1. R "Could you tell me which staff have been involved in your care so far?" PT "Just about all of they really ah" R "Can you tell me?" Pt "Eh Auxiliaries, staff nurses, physiotherapists, consultants, doctors all of them." pause. R "Is there anyone else?" Pt "The domestics get us a cup of coffee and that."
Friendly (TU where patients and staff referred to the importance of care being fast and efficient.)	15 from 1211	1. Pt "But I have no complaints thought they are all very nice and all the other nurses will do anything else for you if I ask them." 2. Pt "Everyone of them I can't speak well enough of them, now they are all marvellous you never see them get aerated pause no and mind they get tried mind they could be."

Teamwork (TU where staff work together to organise care.)	68 from 1211	Pt "Whaa yes there's been a load of them helping me em Staff nurses, doctors, the auxiliaries both in the night and day, the plaster man, with me foot and the hinges, the physiotherapist em I cant think of anyone else. Oh aye and the domestics."
Practical (TU where maintenance care was carried out.)	3 from 1211	1. Pt. "The doctor came and gave me various injections and a thing in to my hand." 2. Pt "Eh well when I first came in the doctor put the catheter in for us and then a venflon in my hand. Do you include consultants in this as well?"
Spiritual (TU where patients refers to the church or god and also where the clergy were present)	17 from 1211	1. Pt "See us and Edna and I went to church and then we got a new vicar and since I have moved to chapel house I've never met a vicar there. Oh he talked to me and oh he was lovely and he said that he would see the man here and ask someone to come and give me communion that was lovely, oh he made me day it was wonderful to see him you know." 2. Pt "Oh they all have done, you only get love if you give it eh, he gives us love and if you don't know him we don't know any body." 3. R "Nothing else, now the clergy have you come into contact with them." Pt "I had a couple of people from the chapel see come past asking us how I was." 4. Pt "No not really, no if they come, then they come and I will have to talk to them but not really I don't really want anybody, I am OK if they come I will be good as I can be."
Confidence (TU where patients comment on staff having faith in them how encouragement from staff gives them confidence.)	36 from 1211	1. Pt "Which I think is good for me, but it is good for everyone and I think it is nice to be encouraged." 2. Pt "But you see I have always walked with a one, I have always used a walking stick for the last 12 years cause I got hurt in the pit, years ago. I walked from the bottom of the ward there up to the toilet and back again well I'd never done that but I had done it, she encouraged is."

Table A9.4Codes for Care Plans; Examples of Text from the Care Plans.

(TU-text unit)

Code	Occurrence of codes in number of TUs	Example
Repeat (TU that contain repeated phrases.)	160 finds from 1211	1. "Skin intact." 2. "Nil deficit." 3. "Bowels opened." 4. "Remains on bed rest."
No code (TU that have no codes attached to them.)	0 finds from 1211	No Finds.
Skin (TU that refers to comments on skin integrity.)	51 finds from 1211	1. "Skin grazes re-dressed, and cleaned, opsite applied." 2. "Joe has a small cut (skin flap) on right leg caused by handle of slipper bed pan. It has been dressed with primapore." 3. "Skin condition intact, pressure areas maintained and observed log rolled."
Circulation (TU where the circulation is tested or recorded or action taken to maintain it.)	7 finds from 1211	1. "No neurovascular deficit." 2. "Plaster applied to Lt foot, No deficit." 3. "No Neurovascular deficits, twice daily foot observations continue. Temp and pulse normal."
Infection (TU where signs of infection its absence mentioned or, also action taken to prevent infection.)	24 finds from 1211	1. "Temp 38.4 at 8 am doctor informed, coughing up blood stained sputum, from recent chest infection." 2. "To have mid stream urine sent tomorrow as urine appears infected." 3. "Redivac removed, total blood loss 50 ml wound redressed with primapore aseptically, clean and free from signs of infection." 4. "Pin sites redressed as protocol, no signs of infection."
Comfort (TU where the patient staff or relative make the pt contented.)	15 finds from 1211	1. "No neurovascular deficit, leg elevated on 2 pillows."

APPENDIX 10

Codes in Care plans

Table A10.1The Codes found in the care plans

	CODES FOUND IN THE CARE PLAN	CODES NOT FOUND IN THE CARE PLAN
AL codes (12 activities of living.)	Safe environment, communication, elimination, temperature, mobilising, breathing, eating and drinking.	Eating and drinking, working and playing, sexuality, dying, sleeping.
NIM codes (Codes developed from the observations, interviews and care plans.)	Pain, experience reminiscence, feel, staff, discharge, teamwork, practical, spiritual, repeat, skin, infection, information giving, control, documentation, orient.	Worry, relative information, staff patient, relative visitor, patients, visitor and relative information, bored, patient seeking, observation, quick, nil, aware, friendly, confidence, circulation, no code, comfort.

APPENDIX 11.

Examples of singularly coded text

Table A11.1 Examples of Singularly coded text from the care plans

CODES	TEXT EXAMPLES
Pain (TU where evidence of pain can be found, talking about pain or rubbing grimacing, asking or refusing pain relief to be made more comfortable.)	"Has pain to affected leg, controlled with oral analgesia within Bobs pain limits."
Experience and reminiscence (TU where Patients staff or relatives talk about the past or long ago, experiences and things that have happened to them.)	"Relevant medical history, was in the hospital for bladder wash out in September."
Feel (TU where the patient expresses their feelings or the patients feeling are identified by staff or relatives.)	"John remains free from anxiety about his admission."
Staff (TU here staff interact together.)	"Relatives present on admission will visit again in the morning."
Discharge (TU where any reference is made to the patient going home or leaving the ward involving staff, patients and relatives or visitors.)	"Home visit planned for Wednesday at ten thirty, the family is aware."
Control (TU where the patient directed care for themselves or other patients.)	"Sue continues to perform her own blood sugar tests which remain normal."
Documentation (TU where notes were involved, referring to the care plans or writing in them.)	"Jack was an emergency admission, problems one to ten identified in the care plan, post operative care plan completed and discontinued."
Orient (TU where patients were made aware of their surroundings.)	What the patient says is the reason for admission: "broken hip."
Teamwork (TU where staff work together to organise care.)	"Pin sites seen by Mr White, to commence antibiotics and be cleaned again this evening."
Spiritual (TU where patients refers to the church or God and also where the clergy were present.)	"Religious practices the patient would like to observe whilst in hospital: Would like to see the chaplain, attends church at least once a week."
Comfort (TU where the patient staff or relative makes the pt contented.) (false finds)	"Comfortable post op no complaints of pain" (All the false finds in the care plans were linked to the pain code.)

Table A11.2 Examples of text singularly coded from the interviews.

CODE	TEXT EXAMPLES
Pain (TU where evidence of pain can be found, talking about pain or rubbing grimacing asking or refusing pain relief to be made more comfortable.)	Pt "The nurses em giving me pain killers when I needed them...seeing if I was in pain you know."
Worry (TU where the patient staff or relatives express concern about home or hospital issues.)	Pt "I have to stop in a bit longer cause it's not healing properly, so that's is mostly the idea of it."
Experience and reminiscence (TU where Patients staff or relatives talk about the past or long ago, experiences and things that have happened to them.)	Pt "Eh the porters, one took me down for a scan eh a young boy brought me back He had just started. Hadn't been here long and I tried to give him a little bit of encouragement cause nowadays I think parents should give their children a bit more and explain life to them course I had a wonderful time."
Feel (TU where the patient expresses their feelings or the patients feeling are identified by staff or relatives.)	Pt "Sometimes they make you feel you are not alone and all that. Pause Its not great being in hospital even if it is only for a week."
Staff (TU here staff interact together.)	Pt "Em two nurses have been attending to me. One, goes on and the other comes off .They have been very good."
Discharge (TU where any reference is made to the patient going home or leaving the ward involving staff, patients and relatives or visitors.)	Pt "If I am still progressing, I think I will get a plaster on, so I would imagine it would be a few days after that, I get home."
Patients (TU where patients interact together, become friends joke chat or entertain each other.)	Pt "The other patients in bed mind, she has been good, she has sort of spurred me along a bit."
Information giving (TU where staff, relatives or patients gave advice, reassurance to the patient.)	R "Is there any thing that would have made your stay better?" Pt "I don't think so really you know. They have kept me informed of all that was happening."
Bored (TU where the patient was bored or showed signs of boredom, fidgeting, restless observing others.)	Pt "Any thing that would have made my stay better em no nothing except the problem of boredom that is but what can you do."
Control (TU where the patient directed care for themselves or other patients.)	Pt "The auxiliaries yes they are generally helpful, if you want anything or ask them to do any thing they will do it."
Documentation (TU where notes were involved, referring to the care plans or writing in them.)	"On line document: interv 1" (false find)
Orient (TU where patients were made aware of their surroundings.)	Pt "I think the staff from another ward look after me, of course the nurses deal with the other 3 patients and some of the other nurses come and deal with me."
Quick (TU where patients and staff referred to the importance of care being fast and efficient.)	Pt "We came up from causality and it was done very quickly, really quick considering they were very busy."
Friendly (TU where patients and staff referred to the importance of care being fast and efficient.)	Pt "Well just the same as everyone else has done. They have been a good help, they have been very good to us". Pause "I've got no complaints."
Teamwork (TU where staff work together to organise care.)	Pt "Em I haven't met many doctors mostly when I was about to have my operation, telling me what they were going to do, well sort of they came in had a sort of word with me and each other."
Spiritual (TU where patients refers to the church or god and also where the clergy were present.)	Pt "Oh the chaplain was lovely. He said he would see the man here and ask someone to come and give me communion that was lovely."
Confidence (TU where patients comment on staff having faith in them how encouragement from staff gives them confidence.)	Pt "One of the sisters she is ... eh has encouraged me the very lot really encouraged me a lot and that's great...now she has made us and I thought I could not do it but I have done it."
Comfort (TU where the patient staff or relative makes the pt contented.)	Pt "Oh me stay in hospital, well I am quite comfortable enough, they have done everything for us and that is it."

APPENDIX 12

Examples of care plan Indexes.

Care plan Index 4 (short Stay). Care plan Index 5 (short stay). Care plan Index 12 (long stay).

Problem number	Actual or potential	Problem	Problem number	Actual or potential	Problem	Problem number	Actual or potential	Problem
1	A	Pain	1	P	Pressure sores	1	A	Pain
2	P	Pressure sores	2	A	Pain	2	P	Pressure sores
3	P	Neurovasc-ular deficit	3	A	Pre-op	3	A	Post operative care plan
4	A	Pre - op	4	A	Post - op	4	A	Hygiene
5	A	Post - op	5	A	Anxiety	5	A	Anxiety
6	A	Anxiety	6	A	Discharge	6	P	Altered bowel habit
7	P	D. V. T.	7	A	Bowels	7	A	Catheter care
8	P	Unprepared-Discharge	8	A	Hygiene	8	P	Deep vein thrombosis
9	A	Reduced Hygiene	9	P	Deep Vein Thrombo sis.	9	P	Discharge
10	A	Reduced Mobility	10	A	Mobility	10	A	Venflon
11	P	Urinary Tract Infection.	11	A	Diabetes	11	A	Mobility
			12	A	Wound Infection	12	P	Neurovasc-ular deficit
						13	A	Pre-operative
						14	A	Wounds
						15	A	Chest infection and pneumonia
						16	A	Poor condition
						17	PA	Pre-operative
						18	P	Post-operative
						19	A	Fractured T 8

APPENDIX 13

Analysis and development of themes.

PHYSICAL VERSUS PSYCHOLOGICAL

From the hierarchies, which presents the staffs perspective of care, and checking the occurrence of the grouping of codes, I can see that staff focus predominantly on the physical element of care. Level one of the hierarchy contained the codes *pain*, **mobilizing, cleansing and dressing, elimination** and **safe environment**. The hierarchy for the patients showed that they were concerned with psychological matters *feel, control, experience/ reminiscence.*

I returned to the coded text to examine them, and confirm the evidence found in the hierarchies. Here is a synopsis of that process.

Memos from the data

-"Comparison of hierarchies, staff hierarchy dominated by issues with strong physical content. Interesting? Could be medical model influence?

-Patients hierarchy expressing more emotional thinking needs and feelings about care.

-Idea, different aims of care staff-physical, patients-emotional, coming from different perspectives. How do they meet in the middle ground? Negotiation, involvement in care (not too much evidence of this)

-Idea? Go back check out text examples. Are these points of view present there?"

Two codes are used as examples to show development of themes, one with a strong physical base and one with a psychological base to check how these are reflected in the different perspectives of patients and staff. These show that staff tend to focus on physical issues and physical actions during care, but patients are concerned with psychological issues as well. Negotiation between these perspectives will improve care. Identifying the notion of partnership in care and areas where it can be achieved. The following represents text example to support the audit trail for the development of the theme.

Text examples of *Pain*

Interview 2

"The doctor came and gave me various injections and a thing in the back of my hand (venflon)... I had to go and have my leg straightened, before I could have the operation... I was frightened but I didn't feel it... I didn't realise they had done anything but they must have done...I didn't feel anything...I waited to go down and I was nervous but relieved to be going."

(Memo- Patient talking about thoughts and feelings, frightened, nervous and relieved at same time)

Interview 5

"...Disc prolapse, which is giving me pains in my right leg, which has been going on and off for 6 weeks ... It just got too much, I couldn't cope any more...I was admitted straight, It was a relief you know, it goes over in your mind what is going on"...

(Memo-Pain too much for patient, not coping at home can't manage, wife helping him too much for them both. Relief at being admitted legitimising his illness, anxiety over his health, fear he will get worse, can't get back to normal, social implication wife to care for him. He is a young man)

Care plan 4

"Morphine 5mg given good effect, back slab applied to right arm to immobilise it and reduce pain ... offered operation or plaster of paris, chosen POP. Applied at 1400. Analgesia given as prescribed, however more analgesia required, using collar and cuff. No deficits."

(Memo- focusing on physical things done, mechanical, arm elevated. Nurse recording these to let others know they have been done. Communicate it to others)

Observations 10

Staff nurse in doorway getting tablets, gives injection and tablets

"I'll give you a sling as well, you know, to keep your arm elevated, reduce the swelling and reduce the pain."

(Memo- pain, as well as info giving about how to reduce pain, e.g. elevate arm)

Observation 12

Pt "yes painkillers please. ... This is the second plaster I've had. It hurts when I stand on it ... I wish I could unzip these plasters it drives you mad ... I wish I could go home ... I feel like I am just waiting all the time."
SN "We need to check with the consultant before we send you home to make sure it has not slipped again."
(Memo- patient sounds frustrated, wants to go home, reassured by staff in factual terms not addressing patient's feelings)

Observation 12
Pt "Theresa went home today ... I am not very well today, I've got a sore bum and I feel tired ... I have had some co-codamol with the meal."
(Memo unhappy about fellow patient leaving, feeling she is not progressing or getting better, Tablets have not helped much)

Text examples of *Feel* (code with a strong psychological base)
Observation Pt "Oh that's a relief. It feels better."
Sn "Ah is it too tight, I will have a look, it looks ok I will put it on loosely"
Pt "How long will I be in for?"
Sn "Just a few weeks."
PT "Oh ! That long."
Sn "We will try to make your stay as comfortable as possible." leaves room to answer a buzzer
(Memo- Relief given by staff doing action, physically loosening the bandage. Pts surprise at length of stay, not expected? Psychological blow)

Care plans "Feel better now as diagnosed prolapsed disc to lower back confirmed and treatment can commence."
(Memo- Has label for illness, makes patient feel better not perceived as a 'faker', now legitimate. Staff applies official label to patient, physical reason given for illness)

Care plan 11 "No complaints of pain, although Robert says he feels "off colour", observations normal"

(Memo- reaction to feeling un-well checking physical reason, checking observations. No references to psychological issues, which may have been discussed but not present in care plans.)

APPENDIX 14

Finding the literature; the search strategy

The study began by planning a search of the literature. Information on previous and current works on the topic of nursing models was found by using hard copy and electronic sources. I used the Cumulative Index to Nursing and Allied Health Literature (Cinahl, 1982 to 2000), Medline (1980 to 2000), then Pubmed (1966 to 2000), the University of Northumbria at Newcastle (UNN) library catalogue and electronic journal catalogue and the British Library. These sources identified items on nursing models and surrounding topics. They were selected, as they were pertinent to the topic being explored. For example, the Pubmed database established in June 1997 covers the fields of nursing, medicine, dentistry, veterinary medicine, the health care system and the pre-clinical sciences. It provides bibliographic citations and author abstracts from more than 4000 journals published worldwide, and is updated daily. This database provides access to articles dating from 1966 to the present. The Cinahl database covers nursing and allied health literature from 1982 to the present and is a comprehensive guide to this body of knowledge. Together these databases provide access to literature from 1966 to the present.

Searching the UNN library catalogue by headings I found books in the local libraries and identified authors working in this field. Searching Amazon and Blackwell publishing house by author uncovered any recent publications not yet held in the library. Other materials, such as conference proceedings, reports and theses from the UK and overseas, were obtained from The British Library. Forthcoming conferences were searched for in the University library and on the World Wide Web.

These sources uncovered many records. The difficulty lay in too many finds and not enough time or resources to consider them all fully. The aim of the review involved identifying the key works, books and papers about models of nursing, to obtain a full picture of the issues involved. The examination of the literature was guided by using "abstracts" to select papers. This helped to narrow the search for papers and gave a good idea of their content. Other sources of material included reference lists in books and papers to identify additional relevant

material, giving attention to frequently sighted or recurring sources. The frequency of citations did not dominate the selection of material, although it suggested avenues to follow up and clarify. In this manner, evaluation was on content not frequency.

I used subject and key word searches to find books in the UNN library database and identified relevant material. Table 14.1 shows the words used in this, and subsequent subject searches. Developed from the material found on published books, I carried out an author search to locate previous and current work. Table14.2 represents authors identified and investigated further. Following this, examination of the reference sections in these works with other lists, gave leads to key references and background sources. At this point, the search widened to papers in the nursing press, using Cinahl, Medline and latterly Pubmed. Again, subject, key word and author searches identified material. From these I selected papers for further analysis using the abstracts to review content. The reference lists were also used to locate further new sources. To find other relevant material published and unpublished I used the British Library, UNN catalogue and searches on the Internet. This identified government papers, newspaper articles, projects, theses, and conferences, past and forthcoming, relevant to nursing models.

The literature review proceeded in a general order moving logically from one area of literature to another; books to papers to other material (theses, projects and conferences). However, there was significant overlap and feedback to earlier stages when new relevant material was found. A difficulty, identified during the review, was that the name of the models did not always appear in the title or abstract and for this reason searching by model title, would not retrieve all the relevant material. The definition of theory and model are interchangeably used in the literature, where some confusion exists. Confining the searches to nursing reduced the number of false finds, as model and theory have alternative meanings in other disciplines, for example, papers on mathematical models would be found.

This strategy provided a picture of current knowledge in the field, and showed which books and papers influenced the core ideas in the literature. There was significant overlap in the searches, with the same finds occurring. The main findings in the literature showed the complexity of the nature of models, the history of model development, perceptions and use in practice and the issue of analysis and evaluation of models. Analysis of the literature has revealed a gap regarding exploration of nursing model in practice, with little evidence to

support or refute their use in practice. This search formed the base of the literature used, both informing and rationalizing the study.

Table A14.1 Subject search parameters

Words used in subject search parameters	
Analysis, Nursing models, Evaluation, Application.	Theory testing
Evaluation Theory and Nursing	Theory testing, nursing
Evaluating, nursing theory	Model and testing
Nursing models and history	Reviews, nursing, model
Research and history	Reviews, nursing, model, analysis
Application and using	Reviews, nursing, model, testing
Analysis and evaluation	Model, nursing, testing
Nursing theory	Model, nursing, evaluation
Nursing models	Model, nursing, evaluation, theory
Models of nursing and application and using	Evaluation, model, theory, nursing
Nursing theory, application and using	Testing, nursing models, evaluation
Roper Logan and Tierney	Nursing models, analysis
N Roper	Nursing models, analysis, application
W Logan	Nursing models, application, testing
A Tierney	Theory, framework
Explore, testing, analysis, evaluation, perception	Model, grand theory
Theory, model, development	Model, orthopaedics, nursing
Nursing, model, theory, testing	Model, orthopaedics, nursing, development
Nursing, model, theory development	Model, orthopaedics, nursing, Analysis
Nursing, model, theory development, testing	Model, orthopaedics, nursing, evaluation
Nursing, theory development, model, analysis	Orthopaedics, nursing, theory development
Nursing theory, 12 activities of living	Nursing, model, practice, theory
Using, model	Nursing, theories
Critique, model	Nursing model, analysis
Attitude, model	Nursing theory, evaluation
Nursing theory development	Nursing, framework
Partnership, nursing, patient, practice	Collaboration, care, nursing, partnership
Patient, Partnership, nursing, care	Involvement, patient, nursing, partnership
Needs, nursing	Needs, partnership, nursing
Needs, nursing, patient	Needs, partnership
Collaboration, nursing, patient, needs	

Table 14.2 Authors of books

Author names searched for	
1. Aggleton P.	2. Akinsanya JA
3. Avant KC	4. Chalmers H
5. Chin–Maeo PL	6. Chinn P
7. Corbin J	8. Denzin NK
9. Ellis JR	10. Fawcett J
11. Field PA	12. Fitzpatrick J
13. Fraser M	14. Huberman A M
15. Hungler B	16. Hunink G
17. Kershaw B	18. Kramer MK
19. Lincoln YS	20. Logan WW
21. Marriner-Tomey A	22. Maslow A
23. Meleis A	24. McGee P
25. McKenna H.P	26. Miles MB
27. Morse JM	28. Munhall PL
29. Newton C	30. Nicoll L
31. Polit D	32. Power AB
33. Procter S	34. Raile-Alligo M
35. Reed J	36. Roper N
37. Salvage J	38. Silva MC
39. Silverman D	40 Stevens- Barnum B
41. Strauss A	42. Tierney A
43. Walker LO	44. Walsh M
45. Wesley RL	46. Whall AL
47. Yura H	